Dissecting the Medical Marketplace: The Development of Healthcare Provision in Nineteenth-Century Portsmouth

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The following maps and figures have been omitted on request of the university –

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Abstract

A tri-partite system of healthcare provision prevailed in nineteenth-century England, with treatment available from a range of private, state and charitable providers. Each of these sectors has been studied in depth, but the relationship between them is poorly documented. Current thinking generally accords a leading position to the private sector. Conceptualised in economic terms, the so-called 'medical market' is regarded by historians as the central driver behind the overall development of healthcare provision and responsible for its rapid expansion in this period. Evidence at a national level reinforces this hypothesis. At a local level however, it remains untested. Aspects of the hypothesis are also under-developed. In particular, an understanding of how the market actually worked in practice is lacking. Through a comprehensive reconstruction of healthcare provision in nineteenth-century Portsmouth, this thesis systematically tests the generalisations that underpin the medical market hypothesis. Its findings challenge the simplistic market generally portrayed in the existing historiography. In addition a range of insights are offered into market operation. These include a thorough consideration of how patients engaged with the market; how the market responded to sudden upsurges in demand; and how the market interacted with state and charitable providers. Detailed analysis of Portsmouth Royal Dockyard's archives forms an important component of the thesis. As well as giving an in-depth picture of dockworkers' health, the records show the extent to which factors other than market forces influenced the way local healthcare developed. Rather than provoking a market response, it is discovered that the high levels of occupational ill health generated at this industrial complex led to a substantial enlargement in state healthcare provision. As a result the state sector constrained the growth of the medical market in parts of Portsmouth. Hence, while broadly supporting the medical market hypothesis, this thesis' main contention is that to understand why healthcare provision developed as it did, scholars need to stop focusing on the medical market in isolation and start considering it as part of a wider system of healthcare.

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Abbreviations

CM: Master of Surgery

FRCS: Fellow of the Royal College of Surgeons

LRCP: Licentiate of the Royal College of Physicians

LSA: Licentiate of the Society of Apothecaries

MB: Bachelor of Medicine

MD: Medical Doctor

MRCS: Member of the Royal College of Surgeons

NMM: National Maritime museum

PCRO: Portsmouth Records Office

PRO: The National Archives

RNM: Royal Naval Museum

Chapter One

Introduction

On 27 October 1865 Staff Surgeon Edward Cree wrote to Rear-Admiral Superintendent Wellesley, the senior sea officer in charge of Portsmouth Royal Dockyard, and asked him to look favourably on the case of John Hobbs:

> John Hobbs was placed on the Sick report Sept 4th a Sick note having been brought to the surgery signed by his leading man. No notice of his having received any hurt in the Dockyard being intimated. The cause of his sickness was unknown to me for several days and he was not visited on account of the distance, upwards of three miles from the Dockyard, the other side of the harbour. His wife reported him and that he was attended by a private practitioner.
> Upwards of three weeks afterwards he came in to the Surgery accompanied by the private surgeon who had been attending him. His hand and arm were then in a very bad state from inflammation and abscess and he was recommended, as he required nourishment and stimulants, to procure admission into the Civil Hospital, as there was no evidence except his own statement that he had been hurt in the execution of his duty it was not a case for admission into Haslar Hospital.
> Nevertheless I consider the probability of the man's statement to be correct, backed as it is by the certificate of his leading man and his private surgeon entitles his case to the favourable consideration of the Admiral Superintendent.[1]

Hobbs' story touches on the main themes of this study, beginning with the development of healthcare provision in nineteenth-century England. Staff Surgeon Cree's letter identifies three broad sectors of provision: private, state and charitable. Hobbs began by paying for the services of a private surgeon.[2] Then, when his arm and hand failed to get better, he tried to obtain treatment at the dockyard surgery where it was decided that he needed hospital attention. Under normal circumstances he would have been sent to Haslar Hospital, the Royal Navy Hospital in Gosport. Like the surgery at the dockyard, this was run and financed by the state. Although the men that worked at the Royal Dockyards were civilians, since the Napoleonic Wars the Admiralty had permitted their admission to naval hospitals for the treatment of serious work-related injuries.[3] In this particular case however, eligibility was in doubt because Hobbs was unable to prove that his injuries had been sustained in the dockyard. As a result, Cree suggested that he seek admission to the civic

hospital, pending consideration of his case by the Admiral Superintendent. The civic hospital in question was located in Portsmouth. As with most other hospitals at the time, it was a charitable institution financed by donations and yearly subscriptions and staffed by a mixture of paid employees and volunteers.[4]

Obviously there is much that the letter does not impart about nineteenth-century healthcare provision. It tells us nothing about how this tri-partite system developed, nor what dynamic(s) maintained it. We also gain no sense of either the relative size and importance of the three sectors, or the wide range of providers that populated each of them. Moreover, it remains unclear how different providers related to one another, both within and outside of their sector. Cree evidently attached importance to the input and presence of the private surgeon, but there is nothing to suggest that this was the norm. It is legitimate to ask for example, how the relationship may have differed if, rather than being a state employee, Cree himself had been in private practice as well.

The second theme is very closely linked with the first, but this time the concern is with the other side of the equation: patients, the consumers of healthcare. Although we will never know if Hobbs was admitted to the Royal Portsmouth, Portsea and Gosport Hospital, the indications are that he was prepared to use providers in all three sectors. It is not apparent however, why he chose to engage with them when he did and in the order that he did. Leaving aside the issue of whether he was really injured at work, Hobbs' decision to begin by employing a private surgeon could have been motivated by any number of reasons. He and his family may have had a long-standing relationship with the practitioner concerned, making it natural for them to turn to him first in times of ill health. Equally though, simple geography may have been the deciding factor. We know from the letter that the dockyard surgeon had not visited Hobbs because he lived three miles away, across the harbour in Gosport. Hence, it is equally plausible that Hobbs went to a private surgeon first because at the time he had no other viable alternative. He needed urgent medical attention but, because of his condition, a trip to Portsmouth was impracticable. In other words his location made it difficult for him to access quickly key sources of state and charitable provision. From a patient's perspective

one can also see why the private route might have been more attractive. Despite its financial implications, this course of action allowed a degree of control over the situation. As well as choosing who to consult, there was no imperative (other than to get better) to actually follow any treatment or advice. Conversely, if Hobbs' encounter with Cree was representative, then it is suggestive of an altogether different relationship between state providers and their patients. While it would be wrong to conclude that Hobbs was completely powerless, it is nonetheless fairly clear that his position as a patient was weak. Rather than 'buying' healthcare he was attempting, through a process of negotiation, to establish an entitlement to it.[5]

Of course, no end of theorising will ever solve the puzzle of why Hobbs went to a private surgeon first of all. But, considering his case in this way provokes thought around issues such as the accessibility of provision and patients' perceptions of what was on offer. If Hobbs had lived in Portsmouth for example, would he have received better healthcare? On the face of it his choices would appear to have been greater. Cree's letter certainly implies that patients living nearer to the dockyard received a prompt visit from him regardless of private practitioner engagement. For Hobbs, early state involvement of this nature may not have prevented his eventual need for hospital treatment, but it might have sped the whole process up. Indeed, the apparent geographical disparity in the distribution of provision in the Portsmouth area raises broader questions about how providers related to consumers.[6]

Hobbs' claim that he was injured at work was central to his request for treatment. Work-related injuries and illnesses were just one way in which industrial activity during the nineteenth century had an impact on health. The effects of environmental pollution caused by industry was another.[7] However, it is the former that provides the focus for the final theme of this study. On balance, it is safe to assume that Hobbs did indeed receive his injuries while working in the dockyard. When he visited the surgery he was able to support his claim with a certificate from his leading man. Moreover, there is nothing in the tone or content of Cree's letter to suggest that Hobbs' injuries were inconsistent with his story. If Cree had harboured any doubts in this regard then it is unlikely that he would have bothered the Admiral Superintendent with the matter. Hence his description of Hobbs' injuries and

condition on arrival at the surgery provide a brief, but graphic insight into the immediate and potentially long-term health implications associated with work in the naval shipbuilding industry. The letter also gives vital clues about the frequency with which injuries requiring medical attention occurred in the dockyard. Hobbs evidently 'came prepared' for his visit and was well-versed in the eligibility criteria for obtaining free healthcare from his employers. This indicates that he either had past experience of the system or knew others that did. Similarly, the very existence of an on-site medical facility with access to Haslar Hospital is suggestive. It implies that not only were injuries in the dockyard fairly common but that they could also, on occasions, be very serious. Assuming that this line of reasoning is correct, one might query just how important a given industry was in generating healthcare needs within its locality? Similarly, did such things as the adoption of new processes, new materials, and new tools and machinery, bring about changes in the scale and nature of these needs? Other factors also require consideration; in the case of the Royal Dockyards for example, increased shipbuilding activity during times of war or international tension might have had a similar effect. The impact of industry on health can also be considered within the context of the first two themes identified. For example, how did healthcare providers respond to the healthcare needs generated by local industry? And, to what extent did local industry shape the development of local healthcare provision?

In the chapters that follow, the themes and questions raised by cases such as Hobbs' are explored through a detailed study of nineteenth-century Portsmouth. As such this research finds itself at the confluence of two substantial, but largely discreet, historical debates. The first encompasses a very broad literature on the development of healthcare provision in England during the eighteenth and nineteenth centuries. Generally, contributors to this field accord a leading role to the private sector, arguing that market forces were the central driver behind the overall expansion in healthcare provision that took place during the period. This thesis also concentrates heavily on the private sector, for the simple reason that its over-arching aim is to test the validity of the medical market hypothesis.[8] Although the state and charitable sectors are touched upon in later chapters, only the state healthcare

facilities available to dockworkers are focused on substantially. This is because, rather than attempting to paint a comprehensive picture of state and charitable provision, the primary concern is with understanding how these sectors related to private providers, and with assessing their influence on the way Portsmouth's private sector developed and operated. Where they do feature, the emphasis is on major providers, such as the voluntary hospital, on the basis that these were the most likely to have had an observable impact on private-sector provision. Hence, Portsmouth's numerous small and generally short-lived medical charities receive only passing attention, while state lunacy provision is not covered at all.[9]

The second debate concerns health in the workplace. Recent historical research in this area has been directed towards the issue of industrial diseases. As a result, the spotlight has fallen mainly on the late-Victorian and early-Edwardian periods and the trades which involved the use of dangerous substances such as lead and arsenic.[10] This thesis aims to further our knowledge by investigating the relationship between naval shipbuilding and the health of Portsmouth's dockworkers throughout the nineteenth century. It also examines the broader impact that this industry had on the development of local healthcare provision. Clearly, these varied aims demand some consideration of the existing historiography. Hence the chapter continues with a critique of the medical market hypothesis and a review of the literature relating to health in the workplace. It then concludes with a discussion about the methods and sources that have been used in this study.

1.1: Historiography

The Medical Market Hypothesis

During the eighteenth and nineteenth centuries there was a rapid and dramatic expansion in healthcare provision. Over the last two decades or so it has become normal for historians to offer an economic explanation for this growth. Essentially, it is argued that a process of 'medical' commercialisation was underway that increasingly led contemporaries to regard healthcare as a commodity which, like any

other, could be bought and sold. Thus it is contended that the period witnessed the development of a thriving medical market, populated by ever-growing numbers of providers and consumers alike. Although the terms 'medical market' and 'medical marketplace' pervade the secondary literature, many aspects of this economic hypothesis are poorly defined. In particular, the detail of how this market operated in practice is lacking, as is a proper understanding of the nature of the relationship that existed between providers and between providers and consumers. Thus, in many respects, it is still not altogether clear if market economics offers the best explanatory framework for the development of healthcare provision during this period. In reality the medical market hypothesis is rather nebulous, based arguably on little more than a series of broad generalisations derived from the collective work of its main proponents: Digby, Loudon and Porter. [11]

In essence the hypothesis relies on the validity of three core generalisations. Firstly, it is argued that by the early decades of the nineteenth century, a fully-functioning medical market was a universal phenomenon across the country. Digby refers to the century that led up to this as the 'golden years' and characterises them as a general 'free for all' during which the market took shape, established itself and steadily became more open and accessible.[12] The evidence to sustain this first generalisation comes from the supply side of the market, where expansion was disproportionate to any increase that might have been expected given England's population growth. Digby's analysis of Simmonds Medical Register revealed that in 1783 there were 3,166 provincial medical practitioners, yet by 1851 this number had increased to 17,491 with a further 21,146 assistants and students.[13] Thus while the number of doctors increased by 452%, the total population only increased by 94% in roughly the same period.[14] In addition, as Porter demonstrates, there was a contemporaneous and equally impressive growth in the numbers of unorthodox practitioners, such as quacks.[15]

This expansion in supply also extended to other areas which are seen to have effectively opened up the market to the lower classes. For instance, there was a substantial rise in the numbers of retail outlets which supplied cheap, over-the-counter medicines.[16] There was also a proliferation in the publication and sale of

medical advice manuals. Buchan's '*Domestic Medicine*', first published in 1769, went through multiple editions, and was still widely available a century later.[17] Expansion in the charitable sector was similarly striking.[18] The number of voluntary hospitals for example, increased from just one in 1720 to thirty-three by 1800.[19] Within the same timeframe, thirty-eight medical dispensaries were also established in larger towns and cities across the country. These charitable institutions functioned as outpatient clinics, dispensing medicine and medical advice to the poor and labouring classes, usually free of charge.[20] Portsmouth benefited from both of these developments albeit not until the early part of the nineteenth century. The port's general medical dispensary began to treat patients in 1823, while the voluntary hospital opened its doors in 1849.[21] Finally, the state sector began to play an increasingly prominent role in healthcare provision, mainly via the Poor Law.[22] Additionally, three large naval hospitals were built at Portsmouth, Plymouth and Chatham. Prior to the eighteenth century, the only purpose-built state-run facilities for the care of sick and injured servicemen were at Chelsea Hospital (soldiers) and Greenwich Hospital (sailors).[23]

The second generalisation is that these golden years were quickly replaced in the nineteenth century with an era characterised by fierce competition in what was rapidly becoming a market overcrowded with providers. This generalisation draws support from a number of sources. Digby notes that by the third quarter of the century, advertisements for the sale of medical practices often dwelt on the economic aspects of the business. Advertisements commonly quoted that practices were 'unopposed' or that the nearest 'opposition' was several miles away, a feature that was clearly regarded as an important selling point. Likewise, it was not unusual to find comments such as 'practice could be increased if guinea midwifery were undertaken'. Other anecdotal evidence from across the nineteenth century paints a similar picture. Surviving doctors' papers frequently record the problems that were faced establishing a viable business. There were also instances where doctors offered to buy-out newcomers who were perceived as a threat to their existing practices.[24] Furthermore, as well as fighting one another for a share of the market, the swelling ranks of doctors faced continued competition from unorthodox practitioners.

For many historians this vying for market share, which Brunton suggests intensified after the 1830s, is regarded as vital to the development of medicine as a modern profession.[25] Holloway is not alone in the view that the increased licensing and regulation of medicine in the nineteenth century was all part and parcel of attempts by the emerging medical profession to establish a monopoly in the medical market.[26] Waddington suggests that as a result, the whole structure of the market eventually changed in the favour of qualified practitioners.[27] However, although this implies the marginalisation of unqualified practitioners, the medical profession's success in closing-out the market was by no means complete. The hugely important 1858 Medical Act for example, failed to outlaw unqualified practitioners. According to Porter, far from being the eighteenth-century phenomenon that is sometimes assumed, quacks and quack medicines remained important components of supply right the way through the nineteenth century. Indeed, he argues that the development of a railway network effectively extended their market penetration.[28] Digby forms a similar opinion and suggests that the continued presence of such practitioners in the market probably helped to keep doctors' prices down.[29]

Loudon also sees the period as one of fierce competition, suggesting that its intensity was evident from the way in which doctors began to display far greater levels of entrepreneurial behaviour. This took several forms and included an increased willingness to take on less lucrative work, such as parish surgeon for the poor. It also saw increased competition for posts in the charitable sector such as sinecures and honorary positions in hospitals and medical dispensaries.[30] These posts served the dual purpose of allowing doctors to move in the right social circles, while at the same time building up a good medical reputation and gaining valuable experience. Both were considered important for attracting affluent clients to private practice.[31] Thus this second phase in the development of the medical market saw overt and strong competition between providers, and this is generally regarded as evidence of normal market operation.

The changes in supply outlined above are additionally seen as a market response to increasing demand for medical advice, treatment and knowledge and the continuing contemporary penchant for self-diagnosis and self-dosing. It is also

argued that the market progressively became more monetised and was a place where 'real' transactions were carried out. This leads to the third generalisation, which is that people principally participated in the medical market as active and rational consumers and so by implication the market was governed by normal consumer behaviour.[32] The development of medical 'consumerism' is generally viewed as a process that started at the top of the social scale and gradually percolated its way downwards over the course of time. Although acknowledging regional differences to the speed with which this happened, Digby asserts that by the mid-nineteenth century it was common to find wage labourers participating in the market, albeit often via routes such as sick clubs or friendly societies.[33]

Implicit to this third generalisation is that the medical market was responsible for a displacement of traditional responses to illness, and that this process became more pronounced as the market became more open and established.[34] There is a wealth of evidence to support this third generalisation. Surviving letters and diaries from the upper and middle classes are filled with accounts where second and even third opinions were sought during the course of a single bout of illness. This is generally regarded as an indication of consumer power and choice. In addition, expenses books and commonplace books reveal that people from these echelons of society also keenly chose to patronise other parts of the medical market. The former for example, often record payments to local druggists, while the latter regularly make reference to popular medical texts and the use of patent and proprietary medicines.[35] Further down the social scale, rising membership to friendly societies, provident clubs and increased medical expenditure through the poor law, all seem to lend support to the notion of greater consumer demand and participation.[36] Harris estimates that membership of friendly societies, many of which provided medical benefits, rose from 648,000 in 1801 to almost 12 million by 1899.[37] After 1870, the vigorous expansion of the trade union movement, many of which had friendly functions, provided even more people with access to healthcare.[38]

Conceptually the medical market hypothesis is undeniably appealing, not least because it fits so well with McKendrick's broader argument that a more general

consumer revolution was underway at roughly the same time.[39] Equally, the evidence on which the hypothesis relies offers a compelling justification in its own right for the adoption of an economic paradigm to explain the development of healthcare provision during this period. It is for these reasons that the notion of a medical market has received so much support over the years. Historians, perhaps beguiled by the convenience and logic of the hypothesis, have been strangely uncritical in their acceptance of it. Indeed, it is no exaggeration to say that until very recently the historiography has been devoid of any dissenting or even critical voices.[40] However, despite the weight of evidence that can be assembled to support the idea of a medical market, the hypothesis is deficient or underdeveloped in a number of areas.

To begin with, the very act of attaching the label 'medical market' assumes that such a thing existed. While it is incontrovertible that doctors for instance needed to make a living and that medicines usually cost money, it is debatable to what extent contemporary providers and, especially, consumers believed in the existence of a medical market. This unwritten 'given' in the historiography has helped to produce a mindset amongst historians in which evidence, particularly from healthcare providers, tends to be interpreted in economic terms. Arguably, this has led to issues such as the role altruism played in the development of provision being inadequately considered. As Brown has recently observed, there is a tendency to narrowly consider all doctors' behaviour as a form of 'product differentiation'.[41] For example, honorary positions in voluntary hospitals are regarded primarily as a mechanism through which doctors sought to build their own private practices. The word 'market' also carries with it certain behavioural expectations on the part of both suppliers and consumers. Fundamentally, it suggests that self-interest was the overriding principle in medicine at this time. Effectively this undermines the potential depth and richness of the doctor-patient relationship, by creating a context in which one is forced to see doctors first and foremost as businessmen.

The hypothesis also fails to explore adequately the intrinsic differences between healthcare and other commodities, and how these might effect the development of a market. In a similar way as is apparent today, 'health' would have

meant different things to different people. This potentially has far-reaching consequences, particularly from a demand point of view. Although Digby acknowledges that the market would have been segmented along economic lines and that there were regional differences to the speed with which it developed, she is less clear about the point at which healthcare needs actually translated into effective market demand.[42] Economics clearly played a part in this, but if it is accepted that demand as opposed to need was, to a degree, socially and culturally patterned, then the possibility arises that the market (assuming such a thing existed) could have had very distinct geographical and chronological characteristics.

A further issue receiving little consideration is the imbalance in knowledge and power that often existed between the provider and the consumer. Whereas contemporaries would have had a fair idea about what represented quality and value in most of the commodities that they purchased, the same would have been far less so for healthcare. With only a limited appreciation of the extent or seriousness of an illness or the suitability of any given course of treatment, the healthcare consumer was heavily reliant on the provider for this information. This was perhaps especially the case when the provider was a doctor. One consequence of this was that it circumscribed the extent to which consumers were able to behave rationally and 'shop around'.[43] One might argue that the 1858 Medical Act accentuated further this one-sided relationship between providers and consumers. In Weberian terms, the requirement for doctors to possess particular qualifications before they could be registered and start practising legitimately, conferred on them considerable monopoly power and 'rational-legal authority'.[44] Thus, it begins to look far less likely that the economic link between providers and consumers was quite as straightforward as it is often portrayed in the historiography.

The final area of deficiency centers on market operation. As both the hypothesis and subsequent supporting research have been concerned largely with explaining the growth of healthcare provision on a national scale, the connection between supply and demand in the medical market tends to be implied, rather than actually demonstrated. At a most fundamental level, we still lack a full appreciation of how the price mechanism worked to determine the cost of healthcare. In many

ways, understanding how the market worked in practice is the most important area requiring attention but the most challenging for historians to get to grips with. Aside from the problems identified above concerning healthcare as a commodity, there are a whole range of other issues that require investigation. For example, how did the general uncertainty of demand affect the ability of the market to respond to sudden upsurges? Similarly, although the current historiography does not claim that the market operated 'perfectly', it remains unclear to what extent its operation was affected by the presence of market imperfections or external influences. Voluntary hospitals and medical dispensaries might be regarded as such. We know that doctors competed for honorary positions in these institutions, but it is not known how these charitable providers influenced prices in the private sector or consumer perceptions of healthcare provision. Indeed, the whole issue of state and charitable providers and their position in relation to the market requires clarification. At the moment, the historiography offers such a loose definition of the 'medical market' that when the term is used it is often unclear whether reference is being made to just the private sector or to the state and charitable sectors as well. On the basis that the latter two provided free healthcare to patients, it makes sense to begin by viewing them as separate from the market, rather than part of it.[45] Henceforth this is the approach that will be taken in this thesis: 'medical market' or 'market' will be used specifically in reference to the private sector. The reasons for adopting this position will become apparent as the argument develops.[46]

The market metaphor therefore begins to show signs of weakness when it is subjected to closer scrutiny. Rather than a relatively simple economic relationship between providers and consumers, we are faced with trying to understand a much more complex model.

Health in the Workplace

Although historians still argue about the timing and extent of the 'Industrial Revolution', it is clear that the expansion that occurred in healthcare provision during the eighteenth and nineteenth centuries took place in a climate of profound

social, economic and cultural change. As these changes became more pronounced, so too did concerns about the unwanted side-effects of industrialisation, urbanisation and population growth. These anxieties found expression in a complex discourse about the benefits and costs of being an industrial nation.[47] From the late-eighteenth century, the issue of work and health began to feature more prominently in this debate.[48] Provincial medical practitioners were early contributors, especially those practising in the new manufacturing districts.[49] J. Jackson and James Kay's article in the *London Medical and Physical Journal*: 'On the influence of the cotton Manufactories on the Health' (1818) was one of many similar publications to appear.[50] Military and Naval medical officers also wrote extensively about the diseases common to the armed forces. Dr James Lind (1716-94) for example, who served as a surgeon's mate and then latterly as a physician at Haslar Hospital, published 'A Treatise of the Scurvy' in 1753, followed in 1777 by *An Essay on the Most Effectual Means of Preserving the Health of Seamen in the Royal Navy.*[51]

Contemporary studies of work and health tended to focus on either specific diseases or specific trades, often linking the two together. A prominent example of this approach can be found in the work of Charles Thackrah.[52] His book of 1831 provided readers with a comprehensive list of occupations, followed by an outline of the particular diseases and physical injuries associated with each. An awareness of the link between work and health also extended beyond purely medical and professional circles. William Buchan's previously mentioned medical self-help manual '*Domestic Medicine*', contained a range of remedies for men 'exposed to particular diseases from the occupations which they follow'.[53] The diseases that Thackrah associated with pottery and matchmaking for instance, would have also been familiar to most people, albeit through more accessible terms such as 'potter's rot' and 'phossy jaw'.[54] Other industries, of which naval shipbuilding was one, were also commonly regarded as dangerous and hazardous to health.[55]

The rise of the factory system heightened this awareness in two important ways. Firstly, it focused attention on the general environment and conditions under which people laboured. Many argued that long periods of standing caused workers specific health problems such as deformities, leg ulcers and varicose veins. Factories

were also thought to make the people working in them generally more susceptible to illness (especially scrofula).[56] The notion that 'dust' was the primary causal agent was a recurring theme. Medical opinion on the subject of industrial diseases remained divided however. Whereas some doctors strongly supported the existence of such a phenomenon, others (especially those employed to investigate the issue by the owners of factories) cast doubt on the notion. As they rightly pointed out, making a causal connection between industry and disease was problematic, given that the workers themselves often lived in insanitary conditions. Attempts were also made to shift the attention of the argument to the prior health of the worker.[57]

Secondly, the factory system made it difficult to ignore the consequences of accidents at work. By their very nature factories brought large numbers of people together under one roof, while the increased use of machinery common to this new form of production had a tendency to produce 'bodies on the floor'. Consequently, the relationship between work and ill health in the form of physical injuries was far less contentious. Unlike industrial diseases, which could take years to develop, the harmful effects of an accident at work were immediately there for all to see. Moreover, in addition to being highly visible, injuries resulting from accidents in the workplace were discrete health issues; their causes could be investigated and, by implication, this made recurrences preventable. Contemporaries were also acutely aware that disability caused at work could mark the beginning of a downward spiral, ultimately leading to unemployment, poverty and long-term dependence on charity and poor relief. Large-scale industrial accidents in this period frequently provoked widespread public reaction.[58]

With mounting calls for reform, politicians were eventually forced to overcome their natural inclination to avoid interfering with industry and the economy and take steps to protect the health of workers. This resulted in a series of factory acts, the first of which, the *Health and Morals Apprentices Act*, was passed in 1802. Up until the late-nineteenth century, these various acts sought to safeguard the health of workers by regulating the workplace environment and conditions of employment. Generally speaking, the concerns of modern-day occupational health specialists (exposure to toxins and other industrial hazards), were considered of

secondary importance.[59] Instead priority was assigned to issues such as ventilation, restricting the employment and working hours of groups deemed 'vulnerable' (women and children) and improving the safety of machinery. This emphasis was partly because medical opinion remained divided on the issue of industrial diseases; but it also reflected the fact that medical influence in matters of work and health was overshadowed and mediated by a range of political and economic interests.[60]

Throughout the nineteenth century, official definitions of what constituted occupational illness remained exclusive. Bartrip uses the example of contemporary publicans to illustrate this point. Victorian mortality tables suggest that innkeepers and victuallers were at a high risk of premature death. They commonly suffered gout, urinary and liver diseases; while the incidence of alcoholism amongst this occupational grouping was higher than for all occupied males. Yet officially, none of the aforementioned diseases was recognised as work-related.[61] This was for the simple reason that all of them were diseases that afflicted the general population as well. Hence, the health risks associated with substances such as lead were known long in advance of legislation to regulate their use in industry. Indeed, in legislative terms there was no apparent shift until the *Factory and Workshop Act* of 1883. This imposed specific restrictions on the production of carbonate of lead. Even as late as 1906, when the 'no fault' system of workmen's compensation was extended to include poisoning from lead, mercury, arsenic and phosphorous, victims were still required to demonstrate that their illness had arisen 'out of and in the course of employment'.[62]

Historical research into the issue of work-related injuries during the nineteenth century is very patchy; for the naval shipbuilding industry it is almost non-existent. Although injuries feature in a number of studies on the coal mining industry, our understanding of this aspect of health and the workplace before 1890 is, on the whole, very poor indeed.[63] Contemporary testimony allows us to construct a qualitative picture of the health hazards faced by industrial workers and gives us some insights into the injuries they suffered. However, as King and Timmins note, such evidence needs to be used wisely.[64] For the unwary, its biased nature can lead to nowhere but the well-rehearsed image of the dark and dangerous Victorian

factory. At the moment, we know next to nothing about the frequency with which workers in different trades and industries sustained physical injuries. Nor do we have a proper appreciation of the extent to which work-related injuries were occupationally specific. Finally, we have no real understanding of how the causes, frequency, and nature of injuries, changed following the introduction of new technology, tools and machinery, materials and processes to the workplace. In part, these historiographical gaps stem from a lack of surviving records; factory inspectors for example, only began to collect statistics of accidents in 1845.[65] As a result, what little research has been done tends to be fairly general in nature. Cawthon for example, has examined Victorian newspaper reporting of industrial accidents between 1830 and 1860, showing how they provided middle-class readers with warnings about the dangers of industrialisation.[66] While Riley's work on the Ancient Order of Foresters provides an impression of the extent to which work-related injuries were part of the overall sickness experience amongst the societies' membership between 1870 and 1910.[67]

Instead, it is more common to find work-related injuries mentioned as components of much broader debates. Surveys of the 'Industrial Revolution' for example, routinely discuss the working conditions in factories and the health hazards presented by increased mechanisation, but rarely elaborate beyond this.[68] The same is also so of studies which focus more specifically on industrial labour. MacRaild and Martin's account of labour in British society; Kirby's recent analysis of child labour in Britain; as well as research on work labour relations in the Royal Dockyards, are fairly typical in this respect.[69] They all mention that workers sustained a range of physical injuries, but without any quantitative detail pertaining to their frequency or character.

Work-related injuries are treated in much the same way by studies concerned with industrial regulation and legislation. Although this literature is enlightening in terms of the causes of injuries and the measures that were put in place to protect factory workers (such as fencing around machinery), its main emphasis is elsewhere.[70] Gray for example, has looked at medical intervention in debates about industrial labour and state regulation between 1830 and 1850.[71] Other historians,

including Nardinelli and Peacock, have considered how effectively the Factory Acts were enforced.[72] The insights provided by this strand of the literature is further limited by the fact that for the greater part of the period, regulatory laws applied almost exclusively to the textile industry. They were also predominately aimed at restricting the working hours of women and children. With the exception of coal mining, it was only after the *Factory Acts Amendment Act* of 1864, that other industries started to be included within existing and future legislation.[73] Even then, the naval shipbuilding industry remained largely exempt during the nineteenth century because the Royal Dockyards (where most construction took place) were Crown premises.[74] It should also be borne in mind that while the historiographical bias towards the textile industry is understandable, given its overall importance to national output, factory production and the factory worker were 'untypical' until well into the second half of the nineteenth century. Instead, small, labour-intensive units of production were the norm.[75] It was not until 1867 that the law was extended to cover these types of workshop, which typically employed fewer than fifty people.[76] As will be seen in chapter two, the dress industries, which had a significant presence in Portsmouth, were predominately organised in this way.

Naval shipbuilding and the Royal Dockyards have attracted considerable scholarly attention, most of which has been focused on the technical aspects of the yards and the ships that they built.[77] Wright's study of the development of medical services at H. M. Dockyard Chatham between 1625 and 1966 stands alone as the only piece of research to make more than just a passing reference to the health of dockworkers in the nineteenth century.[78] However, Wright's article in the *Journal of the Royal Naval Medical Services* is now over forty years old and contains no substantive discussion on the issue of work-related injuries. Although he briefly comments that hernias, along with wounds from axes were commonplace, and quotes a letter to the Admiralty in which the dockyard surgeon mentions that burns had become more frequent since the introduction of iron, he fails to take the analysis further.[79] Instead, his article focuses on the role played by key medical personnel, in what is essentially a Whiggish history of the dockyard surgery. This emphasis was a reflection of Wright's own particular interest in health and the Royal Dockyards.

When his work was published he was serving as an assistant medical officer at Chatham Dockyard.

In recent years, comparatively more research has been undertaken on industrial diseases than on work-related injuries. Two key titles published in the 1980s were responsible for igniting this interest. The first of these was Anthony Wohl's '*Endangered Lives: Public Health in Victorian Britain*'. This was unique in that for the first time in a generation a whole chapter in a book was devoted to 'the canker of industrial diseases'.[80] The second was a collection of essays published under the title '*The Social History of Occupational Health*', which originated from a conference on the subject held at Portsmouth Polytechnic in 1984. The introduction to this volume was an especially important contribution. Written by Paul Weindling, the conference convener and book's editor, it provided a clear articulation of the wider connections between occupational health and society; effectively mapping out an agenda for future historical research.[81]

Since then historians have explored a number of themes. More recently, Peter Bartrip's research into lead, arsenic and phosphorus poisoning and anthrax, has helped us to understand how medical knowledge and public concern about the impact of these diseases in major industries developed in the Victorian and Edwardian periods. Bartrip has also shown the degree to which the process of state intervention and regulation was, from the outset, influenced by government inspectors, 'moral entrepreneurs' and various other interest groups.[82] Clare Holdsworth has examined this latter issue as well, with specific reference to the Pottery Industry.[83] Others have looked at silicosis in flint-knappers, metal workers and coal miners, albeit that this work is mostly grounded in the early twentieth century.[84] Research has also focused on groups of workers, with particular attention being paid to women in the dangerous trades. Carole Malone's study of women in the lead industries for instance, has challenged the traditional view that regulatory legislation to protect this group from excessive working hours in unhealthy environments was entirely beneficial. Instead, she asserts that its motives were also anti-feminist and played a part in the removal of women from the best-paid occupations and their confinement to the domestic sphere.[85]

Notwithstanding contributions of the type outlined above, it is fair to say that this strand of the historiography on work and health is also very limited. Three observations can be made that are especially relevant to the study in hand. Firstly, research so far has concentrated on industrial diseases in the dangerous trades. At this stage naval shipbuilding and Royal Dockyards have received minimal attention, even though by the nineteenth century they had been using substances such as lead and phosphorous for many years. Indeed, as before, Wright is the only scholar to have looked at industrial diseases in the Royal Dockyards during this period, noting that lead poisoning was a recognised problem, as were respiratory disorders caused by the inhalation of cotton silicate.[86] Unfortunately, his research preceded the current wave of scholarship by several decades, hence he was unable to locate his findings within the broader context of work and health.

Secondly, most studies that look at the nineteenth century are anchored in the twenty five or so years that preceded the outbreak of World War One. For the period prior to this we are yet again confronted with a historiographical desert. As before, this is largely because the bureaucratic and legislative recognition of industrial diseases came so late in the Victorian period. As was noted earlier, it was not until the *Factory and Workshop Act 1883* that the emphasis began to shift from the regulation of the working environment to restrictions on the actual materials used in production as well. Thus in one important respect official data concerning the connection between work and health in the period before this is very limited. Although the recording of accidents at work became mandatory in 1845, there was no obligation to do the same for other types of occupational illness until 1895.[87]

Finally, the degree to which occupational illness (here I include work-related injuries as well) influenced the development of local healthcare provision is poorly understood. Evidence from contemporary commentators, though largely anecdotal, supports the view that particular industries generated particular healthcare needs.[88] These might be obvious, such as a common set of physical injuries arising from a certain industrial practice. Alternatively, they might also include diseases that slowly took hold of their victims after years of labouring in an unhealthy working environment or through the long-term exposure to dangerous materials used in the

manufacturing process. Either way, in places where just a few types of industries dominated, one might expect to see an observable response to occupational ill health, especially if such a phenomenon as a medical market existed. Obviously, this response could take any number of forms, including local medical specialization or perhaps notably well-developed (or stunted) provision in the private, state or charitable sectors. Moreover, as Riley's study of British friendly societies amply demonstrates, the role of mutuality and self-help as a response to occupational ill health should not be overlooked.[89] Within the aims of the study being undertaken, addressing this gap in the historiography is obviously of vital importance.

As this section has endeavoured to show, rather than drawing on an established literature, the component of this thesis which deals with the health of dockworkers treads on virgin ground. In many respects the existence of such an blind spot in the historiography is surprising, given that Britain's position as a maritime and colonial power ultimately depended on the naval shipbuilding industry. The main Royal Dockyards were also immense industrial complexes that employed thousands of people and dominated whole towns. Whilst the paucity of studies relating to other industries in the nineteenth century can be partly explained by a lack of sources, this excuse does not apply to Portsmouth Royal Dockyard, where remarkably good records have survived. Hence their study is an exciting prospect, offering both the chance to build substantially on what we already know and providing us with a way to start filling the gaps in our knowledge concerning work and health, particularly in the period prior to 1890.

1.2: Methods, Sources and Structure

A common denominator between the two sets of literature that inform this thesis is that they both suffer from a lack of detail. In particular, the medical market hypothesis as an explanatory model provides us with a series of valuable, but nonetheless broad generalisations; the applicability of which remain uncertain at ground level. The historical geographer Alan Baker recently contended that properly

conceived locally-based historical studies offer a way of better understanding national narratives.[90] Central to his argument is the notion that a spatially-defined entity, whether it be a region or a village, is always connected with the wider world. This connection manifests itself in a whole range of different ways including: socially, economically and culturally. The essential point being that it is never isolated and so contributes to broader processes as well as being affected by them. Given the broad focus of the current historiography, adopting a more local approach would therefore seem a logical direction for new research to take. This view has resonance with the work of Allen, Massey and Cochrane who have likened regional geographies to 'laboratories of exploration', in which theoretical and empirical issues can be tested.[91] This type of research is not without its problems though. Important methodological considerations, such as how to identify and define the region, locality or community to be studied, combined with issues around the survival and interpretation of sources, are sufficiently off-putting for many historians.[92] In addition, there is the perennial matter of whether findings are representative or unique.[93] However, as the many excellent local studies of health and medicine show, these problems are by no means insurmountable.[94]

The decision to locate this research in a port was guided by a number of general considerations. The work of Jackson, Lee and other urban historians demonstrates that the nineteenth century was vital in the history of European and British ports.[95] By most yardsticks they became more important in this period than ever before. Improvements to the transport infrastructure for example, not only provoked strong growth in ports themselves but also made many inland communities economically dependant on them. An increase in ports' notional share of the population was just one of many consequences. With such changes afoot, all of which are likely to have had an impact on the way local healthcare developed, it is surprising to find that aside from major centers such as London and Edinburgh, our knowledge of healthcare in ports is limited to just a few ad hoc studies. Brown, for instance, has examined the private sector in mid-nineteenth-century Bristol.[96] So, as well as offering great potential as laboratories for testing the medical market hypothesis, ports themselves are over-ripe for study by medical historians.

Portsmouth was specifically chosen because during the nineteenth century it had a number of features which make it ideally suited to delivering the aims of this thesis. Although these features are elaborated on in the next chapter, two of them warrant a mention at this stage. Firstly, Portsmouth's strategic importance as a military and naval installation led to very marked and often short-lived fluctuations in the port's economic prosperity, especially at times of international tension.[97] Clearly, this would have had implications for the development of local markets. To return to the analogy of a laboratory, Portsmouth was subject to two easily identifiable external variables: war and peace. Secondly, the presence of the Royal Dockyard had a profound effect on local industry. Not only did it ensure the dominance of naval shipbuilding but, most importantly for this study, it also concentrated this activity on to one single site.[98] Hence, far from being limiting factors, the nature of Portsmouth's idiosyncrasies create an especially favourable context in which to test both the medical market hypothesis and to examine the extent to which local industry shaped the development of healthcare provision.

The contemporary source base for health and medicine in nineteenth-century Portsmouth is generally good, comprising both manuscript sources and a wide range of printed matter including official papers and reports. The topic also appears sporadically in various books and pamphlets that were written and published locally. Although many of the above have been used in this study, the nature of its aims necessarily forced decisions to be made about the sources on which to concentrate. Trade directories and medical directories were central to the analysis of private-sector providers. The data that these yielded served multiple purposes, allowing both the spatial and chronological dimensions of provision to be understood. They also provided a means of tracking the careers and qualifications of doctors, helping to illuminate the sector's changing character across the period. The possibility of using censuses for this exercise was considered. These might, potentially, have uncovered evidence of female practitioners, as well giving an impression of the changing social and economic circumstances of Portsmouth's private providers. However, given that this thesis aims to test the medical market hypothesis by looking at the development

of healthcare provision across most of the nineteenth century, it was felt that going into this level of detail was neither practical nor warranted.

Similar decisions had to be made in relation to the Royal Dockyard and the naval shipbuilding industry. Here, the choice of sources was dictated by the desire to understand both the changing nature of occupational ill health, and its wider impact on the way healthcare provision developed locally. Without doubt, the transition from sail and wood to steam and iron was the greatest development to occur in naval shipbuilding during the nineteenth century. Attention was therefore focused predominately on the years 1820-1871, thus encompassing in excess of 800 items of correspondence relating to the dockyard's medical department. These included letters and memoranda, hospital admission reports, and orders issued to the yard's medical officers. In addition, the details of some 1,000 cases of injury and sickness were extracted from a sample of surgeons' casebooks. However, by choosing to concentrate in such detail on this period, sources relating to the last decades of the nineteenth century received comparatively less attention. For example, the complete run of surgeons' casebooks for the period 1872 to 1900 was left largely untapped. Detailed analysis of these would have undoubtedly revealed something of the health implications that went with the introduction of steel to shipbuilding. But, as each of the twenty-eight casebooks details approximately 1,000 cases, such analysis was beyond the scope of this research. Moreover, it was reasoned that steel's impact on local healthcare provision was unlikely to have been more marked than that which might have occurred as a result of the changeover to steam and iron.

Finally, though extensive, the source base for Portsmouth does have some deficiencies. In particular, very few records have survived of state provision through the poor law and of charitable providers generally. To overcome the challenges this presented, extensive use was made of local newspapers, where both the Board of Guardians and medical charities published details of special meetings, annual reports and financial accounts. Data extracted from this source were also complimented by a range of local government records and publications. Taken collectively, these sources enabled a satisfactory picture to be drawn of provision in these two sectors. Combined with an analysis of the subscribers' lists to the voluntary hospital, it also

proved possible to track the way groups of patients engaged with, and navigated, the various sources of healthcare that were on offer.

Four key methodological approaches have been employed to deliver the aims of this thesis: cartographical, record linkage, quantitative and qualitative analysis. Chapter two provides the essential contextual background to the study. By linking data from sources including antiquarian histories, contemporary guidebooks and other printed matter, historic maps and census records, it builds a comprehensive profile of nineteenth-century Portsmouth, focusing on its: demography; socio-economic character; spatial and industrial development.

Chapter three plots the geographical dimensions of Portsmouth's healthcare provision on a series of maps spanning the nineteenth century. This technically demanding task involves assimilating data extracted from trade directories, medical directories and local newspapers with contemporary maps and surviving buildings from the period in order to pinpoint the location of providers. These maps are considered in conjunction with demographic data to build an understanding of what provision was available where and to whom it was geographically most accessible. This helps to identify possible relationships between the location of private providers and potential sources of demand, providing the first step in detecting whether a medical market existed in the port. It is precisely this type of analysis that the present scholarly literature on the medical market so desperately needs.

Chapter four builds on these findings. Focusing on providers in the private sector, it examines the degree to which their behaviour was driven by economic or market forces. This is achieved through a predominately qualitative analysis of a wide range of sources including: medical advertisements, letters, local newspapers and doctors' records. It also involves linking civilian and naval records in order to uncover the extent to which naval surgeons operated in a private capacity while on shore and the effect this had on civilian practitioners. This is a matter that has yet to receive serious attention by historians. The chapter then concludes with a quantitative analysis of the private providers listed in trade directories and medical directories. By counting their numbers, the sector's chronological development is reconstructed. This is then considered in the context of Portsmouth's wider history

so that an assessment can be made of the impact that exogenous influences had on the way that the sector developed.

Attention is turned to the dockyard in chapter five, where the extensive archives of its medical department are subjected to both quantitative and qualitative analysis. As well as helping to construct a detailed picture of this major state provider, the records yield key data on the frequency and nature of work-related injuries and diseases in the dockyard. The richness of the archive also enables a thorough examination to be made of the impact that new technologies, machinery and materials had on the health of dockworkers. This chapter also begins to identify ways in which the dockyard influenced the broader development of healthcare provision in Portsmouth.

Chapter six links the sources already mentioned with institutional records both to examine how the three healthcare sectors related to one another and to trace patient pathways through the tri-partite system. From the insights this exercise brings, a model for understanding the operation of local healthcare provision is proposed. The chapter finishes with a case study of the 1849 cholera epidemic in Portsmouth. By scrutinising how each of the healthcare sectors responded to the outbreak, it permits conclusions to be drawn about both the day-to-day provision of healthcare and how the system coped with sudden upsurges in demand. Chapter seven reflects on the findings of this thesis in relation to the current scholarly literature and considers their portability to other contexts. It concludes by suggesting a number of directions for future work.

[1] RNM 'The Records of the Medical Department, HM Dockyard Portsmouth', 1983/621-622, 12/1, 'Letter Books and Correspondence Files, 1850-1869', Letter 27 Oct 1865.

[2] In this period the word 'surgeon' generally denoted a general practitioner. For the development of surgery as a medical specialty see: T. Schlich, 'The Emergence of Modern Surgery', in *Medicine Transformed: Health, Disease and Society in Europe, 1800-1930*, ed. by D. Brunton (Manchester: Manchester University Press, 2004), pp. 61-91.

[3] NMM POR/J/6, 'Volume of Orders to the Yard Surgeon, 1823-1849', Admiralty Circular dated 16 August 1826 (containing copy of order dated 25 April 1815).

[4] Hospitals in this period have attracted considerable scholarly attention. Examples from this wide-ranging literature include: A. Borsay, *Medicine and Charity in Georgian Bath: A Social History of the General Infirmary, c.1739-1830* (Aldershot: Ashgate, 1999); S. Cherry, *Medical Services and the Hospitals in Britain, 1860-1939* (Cambridge: Cambridge University Press, 1992); S. Cherry, 'Change and Continuity in the Cottage Hospitals *c.*1859-1948: The Experience of East Anglia', *Medical History*, 36 (1996), 271-289; L. Granshaw, 'The Rise of the Modern Hospital in Britain', in *Medicine in Society*, ed. by A. Wear (Cambridge: Cambridge University Press, 1992), pp. 197-218; I. Loudon, 'The Origins and Growth of the Dispensary Movement in England', *Bulletin of the History of medicine*, 55 (1981), 322-42; H. Marland, 'Lay and Medical Conceptions of Medical Charity During the Nineteenth Century: The Case of the Huddersfield General Dispensary and Infirmary', in *Medicine and Charity Before the Welfare State*, ed. by J. Barry and C. Jones (London: Routledge, 1991), pp. 149-71; H. Marland, 'The Changing Role of the Hospital, 1800-1900' in *Medicine Transformed: Health, Disease and Society in Europe, 1800-1930*, ed. by D. Brunton (Manchester: Manchester University Press, 2004), pp. 31-58; J. V. Pickstone, *Medicine and Industrial Society: A History of Hospital Development in Manchester and its Region, 1752-1946* (Manchester: Manchester University Press, 1985); G. Risse, *Mending Bodies and Saving Souls: A History of Hospitals* (Oxford: Oxford University Press, 1999); K. Waddington, *Charity and the London Hospitals, 1850-1898* (Woodbridge: Boydell, 2000).

[5] There is a substantial literature on the doctor/patient relationship. For examples see: J. Lane, *The Making of the English Patient: A Guide to Sources for the Social History of Medicine* (Stroud: Sutton, 2000); D. Porter and R. Porter, *Patient's Progress: Doctors and Doctoring in Eighteenth-Century England* (Cambridge: Polity Press, 1989); *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, ed. by R. Porter (Cambridge: Cambridge University Press, 1985); R. Porter, 'The Patient's View: Doing Medical History From Below', *Theory and Society*, 14 (1985), 175-198; R. Porter, 'The Patient in England, *c.*1660- *c.* 1800' in *Medicine in Society: Historical Essays*, ed. by A. Wear (Cambridge: Cambridge University Press, 1992), pp. 91-118; E. Shorter, *Doctors and Their Patients: A Social History* (London: Transaction Publishers, 1991).

[6] Throughout the text the term 'provider' is used to denote either a person(s) or institution that supplied healthcare. The term 'consumer' refers to the patient.

[7] K. Morgan, *The Birth of Industrial Britain: Social Change, 1750-1850* (London: Pearson, 2004), pp. 24-26. A good survey covering the issue of environmental pollution in general during this period is provided by: B. W. Clapp, *An Environmental History of Britain Since the Industrial Revolution* (Harlow: Longman, 1994). Examples of research that has focused on the pollution caused by specific industries or the substances used in industry, include: P. W. J. Bartrip, 'How Green Was My Valence? Environmental Arsenic Poisoning and the Victorian Domestic Deal', *English Historical Review*, 109 (1994), 891-913; A. E. Dingle, 'The Monster Nuisance of All': Landowners, Alkali Manufacturers, and Air Pollution, 1828-64', *Economic History Review*, 35 (1982), 529-548; E. Newell, 'Atmospheric Pollution and the British Copper Industry, 1690-1920', *Technology & Culture*, 38 (1997), 655-689; P. Thorsheim, 'The paradox of Smokeless Fuels: Gas, Coke and the Environment in Britain, 1813-1949', *Environment & History*, 8 (2002), 381-401.

[8] Jenner and Wallis observe that the term 'medical market' or 'medical marketplace' was first used in the mid-1980s. They argue that this marked the beginning of a historiographical shift away from a concern primarily with 'learned' practitioners towards an appreciation of healthcare provision in eighteenth- and nineteenth-century England in all its diversity. They point out how historians in this new wave of scholarship emphasised that the boundaries between physicians, surgeons and apothecaries were blurred; that regulation had little impact on medicine; that providers openly competed with one another for custom; and that patients could exercise choice regarding who treated them. See: M. S. R. Jenner and P. Wallis, 'The Medical Marketplace', in *Medicine and the Market in England and Its Colonies c.1450- c.1850*, ed. by M. S. R. Jenner and P. Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 1-23. Since the 1980s a substantial literature has developed, key texts are listed here, others appear throughout this chapter: A. Digby, *Making a Medical Living: Doctors and Patients in the English Market for Medicine, 1720-1911* (Cambridge: Cambridge University Press, 1994): A. Digby, *The Evolution of General Practice 1850-1948* (Oxford: Oxford University Press, 1999); I. Loudon, 'The Nature of Provincial Medical Practice in Eighteenth-Century England', *Medical History*, 29 (1985), 1-32; I. Loudon, *Medical Care and the General Practitioner, 1750-1850* (Oxford: Clarendon Press, 1986); R. Porter, *Quacks, Fakers and Charlatans in English Medicine* (Stroud: Tempus Publishing, 2001). More recently the medical market as an analytical framework has been applied to medicine in earlier periods: I. Mortimer, 'The Rural Medical Marketplace in Southern England *c.* 1570-1720', in *Medicine and the Market in England and Its Colonies c.1450- c.1850*, ed. by M. S. R. Jenner and P. Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 69-87; R. Ralley, 'Medical Economies in Fifteenth-Century England', in *Medicine and the Market in England and Its Colonies c.1450- c.1850*, ed. by M. S. R. Jenner and P. Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 24-46. The Medical Market has also been used outside of the English or British context, for example see: L. Brockliss and C. Jones, *The Medical World of Early Modern France* (Oxford: Clarendon Press, 1997); *The Cape Doctor in the Nineteenth Century: A Social History*, ed. by H. Deacon, H. Phillips and E. Van Heyningen, The Wellcome Series in the History of Medicine, 74 (Amsterdam: Rodopi, 2004).

[9] The Borough of Portsmouth Lunatic Asylum did not open until 1879 and had facilities for four hundred and ten patients: M. Gange, *The Hospitals of Portsmouth: Past and Present* (Southampton: Ensign, 1988), p. 3.

[10] A recent example being: P. W. J. Bartrip, *The Home Office and the Dangerous Trades: Regulating Occupational Disease in Victorian and Edwardian Britain*, The Wellcome Series in the History of Medicine, 68 (Amsterdam: Rodopi, 2002).

[11] See note 8 above.

[12] Digby, *Making a Medical Living*, p. 172; Loudon refers to the period as the 'golden age of physic': 'The Nature of Provincial Medical Practice', pp. 25 & 29.

[13] Digby, *Making a Medical Living*, p. 13. Terminology is very important in any discussion concerning the medical market and a label such as 'medical practitioner' or 'doctor' can be misleading. Appendix 1 outlines how such terms have been used in this thesis.

[14] Population data is for the period 1801-1851. This was taken from: S. King and G. Timmins, *Making Sense of the Industrial Revolution: English Economy and Society, 1700-1850* (Manchester: Manchester University Press, 2001), p. 209.

[15] Porter, *Quacks, Fakers and Charlatans*, in particular chapters 1 & 2.

[16] Digby, *Making a Medical Living*, p. 32. Patent and proprietary medicines were also increasingly marketing through newspaper advertising, see: P. S. Brown, 'The Venders of Medicines Advertised in Eighteenth-Century Bath Newspapers', *Medical History*, 19 (1975), 352-369; P. S. Brown, 'Medicines Advertised in Eighteenth-Century Bath Newspapers', *Medical History*, 20 (1976), 152-

68; L. H. Curth, 'Medical Advertising in the Popular Press: Almanacs and the Growth of Proprietary Medicines', *Pharmacy in History*, 50 (2008), 3-16.

[17] Porter, *Quacks, Fakers and Charlatans*, p. 47. For the early development of medical advice manuals see: M. E. Fissell, 'The Marketplace in Print' in *Medicine and the Market in England and Its Colonies c.1450- c.1850*, ed. by M. S. R. Jenner and P. Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 108-132.

[18] There is a well-developed literature on the charitable sector and healthcare, much of which has focused on voluntary hospitals (note 4). In addition see: *Medicine, Charity and Mutual Aid: The Consumption of Health and Welfare in Britain, c.1550-1950*, ed. by A. Borsay and P. Shapely (Ashgate: Aldershot, 2007); M. Gorsky, *Patterns of Philanthropy: Charity and Society in Nineteenth-Century Bristol*(Woodbridge: Boydell, 1999).

[19] Digby, *Making a Medical Living*, p. 233.

[20] Loudon, 'The Origins and Growth', 322-42.

[21] Gange, *The Hospitals of Portsmouth*, p. 2.

[22] Digby, *Making a Medical Living*, p. 45.

[23] M. Lindemann, *Medicine and Society in Early Modern Europe* (Cambridge: Cambridge University Press, 1999), p. 146.

[24] Digby, *Making a Medical Living*, pp. 110-11; Digby, *The Evolution*, p. 99.

[25] D. Brunton, 'The Emergence of a Modern Profession', in *Medicine Transformed: Health, Disease and Society in Europe, 1800-1930*, ed. by D. Brunton (Manchester: Manchester University Press, 2004), pp. 180-207, (p. 135). The professionalisation of medicine has attracted considerable scholarly interest. Digby and Loudon deal with the subject at length see note 8 above. Further examples include: N. Parry and J. Parry, *The Rise of the Medical Profession: A Study of Collective Social Mobility*, (London: Croom Helm, 1976); I. Waddington, *The Medical Profession in the Industrial Revolution* (Dublin: Gill and Macmillan, 1984). Ramsey's work on France also has resonance with the English situation see: M. Ramsey, *Professional and Popular Medicine in France, 1770-1830: The Social World of Medical Practice* (Cambridge: Cambridge University Press, 1988), pp. 71-122.

[26] S. W. F. Holloway, 'The Apothecaries' Act, 1815: A Reinterpretation, Part 1: The Origins of the Act', *Medical History*, 10 (1966), 107-29, (p. 109); J. L. Belant, *Profession and Monopoly: A Study of Medicine in the United States and Great Britain* (Berkeley: University of California Press, 1975), chapter 4; Parry and Parry, *The Rise of the Medical Profession*, chapter 6.

[27] Waddington, *The Medical Profession*, pp. 176-205.

[28] Porter, *Quacks, Fakers and Charlatans*, p. 64. See also: O. Davies, 'Cunning-Folk in the Medical Market-Place During the Nineteenth Century', *Medical History*, 43 (1999), 55-73.

[29] Digby, *The Evolution*, p. 99.

[30] I. Loudon, 'A Doctor's Cash Book: The Economy of General Practice in the 1830s', *Medical History*, 27 (1983), 249-268.

[31] In London, appointments to voluntary hospitals linked doctors to their Royal and aristocratic patrons: Parry and Parry, *The Rise of the Medical Profession*, p. 137.

[32] Jenner and Wallis, 'The Medical Marketplace', pp. 2-3.

[33] Digby, *Making a Medical Living*, pp. 224-53. The issue of self-help and mutual aid has attracted much historical attention. Examples from this literature which look more specifically at sickness and medical provision include: M. Bee, 'Providence with Patronage: The Royal Berkshire Friendly Society, 1872-1972', *Southern History*, 16 (1994), 100-121; C. Edwards, M. Gorsky, B. Harris and A. Hinde, 'Sickness, Insurance and Health: Assessing Trends in Morbidity Through Friendly Society Records', *Annales de Demographie Historique*, 1 (2003), 131-167; M. Gorsky, B. Harris and A. Hinde, 'Age, Sickness, and Longevity in the Late Nineteenth and the Early Twentieth Centuries: Evidence From the Hampshire Friendly Society', *Social Science History*, 30 (2006), 571-600; E. Lord, 'Weighed in the Balance and Found Wanting': Female Friendly Societies, Self Help and Economic Virtue in the East Midlands in the Eighteenth and Nineteenth Centuries', *Midland History*, 22 (1997), 100-112; J. C. Riley, 'Ill Health During the English Mortality Decline: The friendly Societies' Experience', *Bulletin of the History of Medicine*, 61 (1987), 563-588; J. C. Riley, *Sick Not Dead: The Health of British Workingmen During the Mortality Decline* (London: Johns Hopkins University Press, 1997).

[34] The term 'traditional responses' is used in this context to denote the use of lay practitioners, as well as treatment involving homemade cures and medicinal recipes. Discussion concerning such responses can be found in: S. King, *A Fylde Country Practice: Medicine and Society in Lancashire, circa 1760-1840* (Lancaster: Centre For North-West Studies, 2001), pp. 33-62. See also: E. Leong and S. Pennell, 'Recipe Collections and the Currency of Medical Knowledge in the Early Modern 'Medical Marketplace', in *Medicine and the Market in England and Its Colonies c.1450- c.1850*, ed. by M. S. R. Jenner and P. Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 133-152.

[35] J. Lane, 'The Doctor Scolds Me': The Diaries and Correspondence of Patients in Eighteenth-Century England', in *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, ed. by R. Porter (Cambridge: Cambridge University Press, 1985), pp. 205-48.

[36] Digby, *Making a Medical Living*, pp. 45-51; S. King, *Poverty and Welfare in England 1700-1850* (Manchester: Manchester University Press, 2000), p. 255.

[37] B. Harris, *The origins of the British Welfare State: Social Welfare in England and Wales, 1800-1945* (Basingstoke: Palgrave Macmillan, 2004), p. 82. It should be noted that the figure for 1801 is for England and Wales whereas for 1899 it is for Britain.

[38] Parry and Parry, *The Rise of the Medical Profession*, p. 147.

[39] N. McKendrick, J. Brewer and J. Plumb, *The Birth of a Consumer Society: The Commercialization of Eighteenth-Century England* (London: Europa, 1982), pp. 1-33.

[40] As yet there has been no systematic attempt to test the validity of the medical market hypothesis. However, in an ad hoc manner more recent work has started to cast doubt on aspects of the hypothesis. Owen's study of women healers for example, indicates that the displacement of traditional lay healers has been over estimated, see: O. Davies, 'Female Healers in Nineteenth-Century England', in *Women's Work in Industrial England: Regional and local Perspectives*, ed. by N. Goose (Hatfield: Local Population Studies, 2007), pp. 228-49. David Gentilcore has also argued that the market model is unhelpful in understanding the development of healthcare in early modern Italy, suggesting that it obscures the importance of religious and magical remedies for disease. He instead prefers to think in terms of overlapping, healing communities: D. Gentilcore, *Healers and Healing in Early Modern Italy* (Manchester: Manchester University Press, 1998), p. 2.

[41] M. Brown, 'From the Doctors' Club to the Medical Society: Medicine, Gentility and Social Space in York, 1780-1840' in *Eighteenth-Century York: Culture, Space and Society*, ed. by M. Hallett and J. Rendall (York: Borthwick Publications, 2003), pp. 59-69, (p. 61).

[42] Digby, *Making a Medical Living*, pp. 93-125.

[43] In-depth discussion of the market system and healthcare can be found in: J. Le grand, C. Propper and R. Robinson, *The Economics of Social Problems*, 3rd edn (Basingstoke: Macmillan, 1992), pp. 36-64; A. McGuire, J. Henderson and G. Mooney, *The Economics of Health Care* (London: Routledge, 1988).

[44] For an analysis of Weber's Theory of Social Class: Class and the Market Situation, see: K. Morrison, *Marx, Durkheim, Weber: Formations of Modern Social Thought* (London: Sage, 2004), pp. 232-38; for an outline of Weber's thinking concerning power and types of authority see: M. Holborn and M. Haralambos, *Sociology Themes and Perspectives*, 5th edn (London: HarperCollins, 2000), pp. 588-89.

[45] A similar position is adopted by Siena. See K. P. Siena, *Venereal Disease, Hospitals and the Urban Poor: London's "Foul Wards", 1600-1800* (University of Rochester Press: New York, 2004).

[46] I have favoured the term 'private sector' as opposed to 'commercial sector' for two reasons. Firstly, contemporaries referred to 'private' doctors, not 'commercial' doctors. Secondly, the word 'commercial' implies the existence of a market.

[47] *Documents of the Industrial Revolution 1750-1850*, ed. by R. L. Tames (London: Hutchinson, 1971), p. 153.

[48] Bartrip, *The Home Office and the Dangerous Trades*, p. 14.

[49] The rise of the manufacturing districts is covered in: B. Trinder, 'Industrialising Towns 1700-1840' in *The Cambridge Urban History of Britain, 1540-1840*, ed. by P. Clark, 3 vols (Cambridge: Cambridge University Press, 2000), II, 805-829.

[50] Bartrip, *The Home Office and the Dangerous Trades*, p. 14.

[51] N. A. M. Rodger, *The Wooden World: An Anatomy of the Georgian Navy* (London: Fontana, 1986), p. 111. The fame of men such as Lind ensured a wide professional readership for their publications: P. Mathias, 'Swords and Ploughshares: The Armed Forces, Medicine and Public Health in the Late Eighteenth Century' in *The transformation of England: Essays in the Economic and Social History of England in the Eighteenth Century*, ed. by P. Mathias (London: Methuen, 1979), pp. 265-287, (p. 274).

[52] C. T. Thackrah, *The Effects of Arts, Trades and Professions, and of Civic States and Habits of Living, on Health and Longevity: With Suggestions For the Removal of Many of the Agents Which Produce Disease, and Shorten the Duration of Life*. 2nd edn (London: Longman, Rees, Orme, Brown, Green and Longman, 1832).

[53] W. Buchan, *Domestic Medicine: Or , a Treatise on the Prevention and Cure of Diseases by Regimen and Simple Medicines*. 18th edn (London: Strahan, Cadell and Davies, 1803), pp. 35-57, (p. 35).

[54] A. S. Wohl, *Endangered Lives: Public Health in Victorian Britain* (London: Dent, 1983), p. 264.

[55] J. J. Keevil, *Medicine and the Navy, 1200-1649*, 4vols (London: Livingstone, 1957) ,I, 205-206.

[56] R. Gray, 'Medical Men, Industrial Labour and the State in Britain, 1830-50', *Social History*, 16 (1991), 19-43, (p. 21).

[57] Gray, 'Medical Men', pp. 21-34.

[58] Bartrip, *The Home Office and the Dangerous Trades*, pp. 9-11.

[59] C. Holdsworth, 'Dr John Thomas Arlidge and Victorian Occupational Medicine, *Medical History*, 42 (1998), 458-475, (p. 459).

[60] Wohl, *Endangered Lives*, chapter 10.

[61] Bartrip, *The Home Office and the Dangerous Trades*, pp. 5-6.

[62] Bartrip, *The Home Office and the Dangerous Trades*, p. 5.

[63] See for example: J. Benson, *British Coalminers in the Nineteenth century: A Social History* (Dublin: Gill and Macmillan, 1980); T. Boyns, 'Work and death in the South Wales Coalfield, 1874-1914', *Welsh History Review*, 12 (1985), 514-536; C. Mills, 'A Hazardous Bargain: Occupational Risk in Cornish Mining 1875-1914', *Labour History Review* 70 (2005), 53-71; S. Simpson, 'A Trade Union Solitary: Memoir of a Mid-Nineteenth-Century Miner', *Historical Workshop Journal*, 25 (1988), 148-165. Leneman's study of Wemyss Coal Company looks at accidents and injuries in the Edwardian period and just after: L. Leneman, 'Lives and Limbs: Company Records as a Source For the History of Industrial Injuries', *Social History of Medicine*, 6 (1993), 405-427. Industrial accidents are covered by: A. McIvor, 'Work and Health, 1880-1914: A Note on a Neglected Interaction', *Journal of the Scottish Labour History Society*, 24 (1989), 47-67.

[64] King and Timmins, *Making Sense of the Industrial Revolution*, pp. 90-95.

[65] Bartrip, *The Home Office and the Dangerous Trades*, pp. 4-5.

[66] E. A. Cawthon, 'Apocrypha From the Victorian Workplace: Occupational Accidents and Employee Attitudes in England, 1830-1860', *Victorian Periodicals Review*, 25 (1992), 56-63. On accidents generally see: *Accidents in History*, ed. by R. Cooter and B. Luckin, The Wellcome Series in the History of Medicine, 41 (Amsterdam: Rodopi, 1997); K. Figlio, 'What is an Accident' in *The Social History of Occupational Health*, ed. by P. Weindling (London: Croom Helm, 1985), pp. 181-206.

[67] Riley, *Sick Not Dead*, in particular chapter 7.

[68] For indicative examples: K. Morgan, *The Birth of Industrial Britain: Economic Change, 1750-1850* (London: Longman, 1999), p. 44; M. J. Daunton, *Progress and Poverty: An Economic and Social History of Britain 1700-1850* (Oxford: Oxford University Press, 1995), p. 224.

[69] P. Kirby, *Child Labour in Britain, 1750-1870* (Basingstoke: Palgrave Macmillan, 2003); *History of Work Labour Relations in the Royal Dockyards*, ed. by K. Lunn and A. Day (London: Mansell, 1999); D. M. MacRaild and D. E. Martin, *Labour in British Society, 1830-1914* (Basingstoke: Macmillan, 2000).

[70] Although first published in 1948, Thomas' book is particularly useful in this respect: M. W. Thomas, *The Early Factory Legislation: A Study in Legislative and Administrative Evolution* (Westport: Greenwood, 1970), pp. 223-244.

[71] Gray, 'Medical Men'; see also: R. Gray, *The Factory Question and Industrial England, 1830-1860* (Cambridge: Cambridge University Press, 1996).

[72] C. Nardinelli, 'Child Labor and the Factory Acts', *Journal of Economic History*, 40 (1980), 739-755; A. E. Peacock, 'The Successful Prosecution of the Factory Acts, 1833-1855', *Economic History Review*, 37 (1984), 197-210.

[73] Bartrip, *The Home Office and the Dangerous Trades*, p. 70.

[74] D. S. Wright, 'Training in Occupational Medicine in the Royal Navy – A Personal View', *Journal of the Royal Naval Medical Services*, 71 (1985), 9-14, (p. 10).

[75] King and Timmins, *Making Sense of the Industrial Revolution*, pp. 49-59.

[76] Kirby, *Child Labour in Britain*, pp. 108-109.

[77] Typical examples from this literature include: D. K. Brown, *Warrior to Dreadnought: Warship Development 1860-1905* (London: Chatham Publishing, 1997); D. K. Brown, *Before the Ironclad: The Development of Ship Designs, Propulsion and Armament in the Royal Navy, 1815-60* London: Conway Maritime, 1999); D. Evans, *Building the Steam navy: Dockyards, Technology and the Creation of the Victorian Battle Fleet 1830-1906* (London: Conway Maritime, 2004).

[78] D. S. Wright, 'The History and Development of the Medical Services of H. M. Dockyard, Chatham, 1625-1966', *Journal of the Royal Naval Medical Services*, 54 (1968), 25-68.

[79] Wright, 'The History and Development', pp. 41-9.

[80] Wohl, *Endangered Lives*, chapter 10.

[81] P. Weindling, 'Linking Self Help and Medical Science: The Social History of Occupational Health', in *The Social History of Occupational Health*, ed. by P. Weindling (London: Croom Helm, 1985), pp. 2-31.

[82] Bartrip, *The Home Office and the Dangerous Trades*; see also P. W. J. Bartrip and S. B. Burman, *The Wounded Soldiers of Industry: Industrial Compensation Policy, 1833-1897* (Oxford: Clarendon Press, 1983).

[83] Holdsworth, 'Dr John Thomas Arlidge', pp. 458-475.

[84] S. A. Batty, 'Knappers' Rot: Silicosis in East Anglian Flint-Knappers', *Medical History*, 25 (1981), 151-168; M. W. Bufton and J. Melling, 'Coming Up For Air: Experts, Employers, and Workers in Campaigns to Compensate Silicosis Sufferers in Britain, 1918-1939', *Social History of Medicine*, 18 (2005), 63-86; B. Penrose, 'Medical Monitoring and Silicosis in Metal Miners: 1910-1940', *Labour History Review*, 69 (2004), 285-303.

[85] C. Malone, 'The Gendering of Dangerous Trades: Government Regulation of Women's Work in the White Lead Trade in England, 1892-1918', *Journal of Women's History*, 8 (1996), 15-35. See also: B. Harrison, 'Some of Them Gets Lead Poisoned': Occupational Lead Exposure in Women, 1880-1914', *Social History of Medicine*, 2 (1989), 171-195; B. Harrison, Suffer the Working Day: Women in the 'Dangerous Trades,' 1880-1914', *Women's Studies International Forum*, 13 (1990), 79-90.

[86] D. S. Wright, 'Man-made Mineral Fibres: A Historical Note', *Journal of the Society of Occupational Medicine*, 30 (1980), 138-40.

[87] Bartrip, *The Home Office and the Dangerous Trades*, pp. 4-5.

[88] Research relating to the mid-twentieth century has argued that Manchester developed particular expertise in dealing with industrial injuries: J. Anderson, 'Innovation and locality: Hip replacement in Manchester and the North West of England', *Bulletin of the John Rylands University Library of Manchester*, 87 (2005), 155-166.

[89] Riley, *Sick, Not Dead*, pp. 27-44.

[90] A. R. H. Baker, *Geography and History: Bridging the Divide* (Cambridge: Cambridge University Press, 2003), chapter 5.

[91] Cited in Baker, *Geography and History*, p. 162.

[92] For a discussion on the methodological and source problems associated with local studies in health and medicine see: S. King and A. Weaver, 'Lives in Many Hands: The Medical Landscape in Lancashire, 1700-1820', *Medical History*, 44 (2000), 173-200.

[93] J. D. Marshall, *The Tyranny of the Discrete: A Discussion of the Problems of Local History in England* (Aldershot: Scolar Press, 1997).

[94] Examples include: Borsay, *Medicine and Charity in Georgian Bath*; M. E. Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol* (Cambridge: Cambridge University Press, 1991); King, *A Fylde Country Practice*; H. Marland, *Medicine and Society in Wakefield and Huddersfield: 1780-1870* (Cambridge: Cambridge University Press, 1987).

[95] D. H. Jacks and M. Lynch, 'Ports 1540-1700' in *The Cambridge Urban History of Britain, 1840-1950*, ed. by P. Clarke, 3 vols (Cambridge: Cambridge University Press, 2000), II, 377-424; G. Jackson, 'Ports 1700-1840' in *The Cambridge Urban History of Britain, 1840-1950*, ed. by P. Clarke, 3 vols (Cambridge: Cambridge University Press, 2000), II, 705-731; W. R. Lee, 'Configuring the City: In-Migration, Labour Supply and Port Development in Nineteenth-Century Europe', *International Journal of Maritime History*, XVII (2005), 91-122; S. Palmer, 'Ports' in *The Cambridge Urban History of Britain, 1840-1950*, ed. by M. Daunton, 3 vols (Cambridge: Cambridge University Press, 2000), III, 133-150; R. C. Riley and J. L. Smith, 'Industrialization in Naval Ports: The Portsmouth Case', in *Cityport Industrialization and Regional Development: Spatial Analysis and Planning Strategies*, ed. by B. S. Hoyle and D. A. Pinder (oxford: Pergamon Press, 1981), pp. 133-150.

[96] P. S. Brown, 'The Providers of Medical Treatment in Mid-Nineteenth-Century Bristol', *Medical History*, 24 (1980), 297-314; P. S. Brown, 'Herbalists and Medical Botanists in Mid-Nineteenth-Century Britain With Special Reference to Bristol', *Medical History*, 26 (1985), 71-92.

[97] R. C. Riley and J. Chapman, 'The Nineteenth Century', in *The Portsmouth Region*, ed. by B Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 72-82, (p. 72).

[98] R. C. Riley, 'The Industries of Portsmouth in the Nineteenth Century', *The Portsmouth Papers*, 25 (1976), 3-22, (p. 3).

Chapter Two

A Background to Portsmouth

Shortly before the outbreak of the Napoleonic Wars the naturalist and antiquary, Thomas Pennant, took a tour of southern England, travelling from London all the way to the Isle of Wight. On reaching the edge of the mainland, he recorded the sight that greeted him as he gazed out from his vantage point on Portsdown Hill:

> Beneath us lay the dreary Isle of Portsea, with Portsmouth at its end. Its noble harbour filled with ships of war, at this peaceful time laid up, yet divested as they were of their terrific apparatus, could not fail of striking us with admiration.

Then later, after having reached the town itself, he remarked:

> The ramparts are planted with trees, and form a most beautiful walk; many of the cannons were dismounted, the town seemed almost dispeopled, and everything at this time indicated the fullness of peace.
>
> *Thomas Pennant 1793*[1]

These descriptions, though brief, make three points that are of central importance to an understanding of Portsmouth during the period covered by this study.

Firstly, Portsmouth was located right at the end of Portsea Island; even as late as the 1860s, the town remained cocooned on the island's south-western tip. Here it was separated from the mainland by the water of Port Creek and a large expanse of land given over mainly to agriculture and market gardening, with the occasional small village or hamlet. In part, this urban clustering can be explained by the obvious limitations of an island location. Yet, in Portsmouth's case, the presence of fortifications around much of the early settlement presented a further, imposing obstacle to expansion. Consequently, from the late-eighteenth century onwards, Portsmouth's spatial development was characterised by the formation of four distinct townships. Though collectively these were referred to as Portsmouth, each had its own unique character. The two earliest settlements, Old Portsmouth and Portsea, remained encased within the fortifications until the latter were partially removed towards the end of the nineteenth century. Landport and Southsea on the other hand

developed outside, as the pressure for space from a growing population forced urban expansion northwards and eastwards across the island.[2]

Secondly, Pennant defined Portsmouth through its connection with the Royal Navy. This was hardly surprising given the town's long naval heritage. Portsmouth's geographical location in relation to France, its proximity to good timber supplies and its sheltered, deep and easily defensible harbour were strategic assets that had been exploited on and off since the late-twelfth century. Most significantly, this had led to the development of a Royal Dockyard at Portsmouth, when Henry VII ordered the construction of England's very first dry dock at the end of the fifteenth century. After a shaky start, the dockyard had steadily expanded and by the turn of the eighteenth century was well established as one of the Admiralty's premier repair and construction facilities.[3] Pennant would have undoubtedly been well aware of the vital role that it had played keeping the navy afloat in recent conflicts, such as the Seven Years' War and the American War of Independence. His failure to elaborate on the presence of ships of war in the harbour merely reflected common knowledge: that the Royal Navy and the Royal Dockyard in particular, were synonymous with Portsmouth.

Finally, Pennant noted that many of the cannons guarding the entrance to the harbour were dismounted and that the ships of war were currently laid up because it was a time of peace. He remarked that the town appeared 'dispeopled'. While these might have been just simple observations on his part, such comments nonetheless allude to the idea that in times of war the ships, and with them Portsmouth, underwent some sort of marked transformation. This was indeed the case. War, or even the threat of war, affected Portsmouth in a number of ways. Most notably it meant large influxes of people to the town; an expansion in the numbers employed at the dockyard; and, more often than not, a general upturn in local prosperity. The reverse tended to happen in times of peace.[4] While the fortunes of most towns were determined by changes in the general economic climate, Portsmouth's was to an extent governed by the state of international relations.[5] As a result, local markets often found themselves having to cope with sudden upsurges in demand, followed by equally abrupt slumps.

This chapter lays the contextual foundations for the rest of the thesis. It begins with a short overview of the growth and structure of Portsmouth's population during the nineteenth century. This is followed by a discussion about Portsmouth's four towns and a brief commentary on their spatial development. A collective look is then taken at Portsmouth's industry, where the centrality of the dockyard emerges as an overarching theme. The chapter concludes by briefly considering the potential implications of Portsmouth's development on healthcare needs and demands and the formation of markets.

2.1: Population

> 'An English seaport town principally remarkable for mud, Jews, &c.'
>
> *Charles Dickens, 1838*[6]

In keeping with the development of ports more generally, Portsmouth's rapid population growth began early in the eighteenth century.[7] By 1801 it was the twelfth largest settlement in England and Wales with a population of just over 33,000.[8] Early growth patterns followed those elsewhere and involved increasing the density of the existing settlement rather than extending its area.[9] This trend changed during the second half of the nineteenth century with urban expansion occurring as population growth on Portsea Island exceeded twice the national average.[10] By 1901, the population had reached 188,133 and Portsmouth's urban sprawl had engulfed a large area of Portsea Island.[11]

Throughout the nineteenth century, intercensal population increases for the borough of Portsmouth displayed a strong relationship with events on the international stage and the resultant effect that these had on policy towards the Royal Dockyards. For example, the 36 per cent increase in the population between 1841 and 1851 took place at the same time as colonial conflicts in India and Burma and the building of infrastructure at the dockyard to support the Admiralty's adoption of steam propulsion. In the decade that followed, the population grew by a further 31

per cent. This increase coincided with the enlarged facilities of the dockyard coming on stream and a renewed emphasis on naval shipbuilding which had been prompted by the Crimean War and then given fresh impetus by mounting fears about the French. In the closing decades of the century similarly high increases accompanied the re-armament programme and further expansions in the dockyard's capacity. Conversely, the end of the Napoleonic Wars and the resultant run-down of the dockyard, brought only modest increases of 4 per cent and 10 per cent between 1821-31 and 1831-41 respectively.[12]

In-migration was central to Portsmouth's growth and remained so well into the nineteenth century. This was the common experience in towns and cities across England and Wales and Europe more widely, where early growth in particular tended to be heavily reliant on the movement of people from the surrounding countryside.[13] However, like London, Liverpool and other ports, Portsmouth also attracted people from much further afield. In 1851, 42 per cent of Portsmouth's residents had been born outside of the county. By 1871, this figure had increased to 50 per cent.[14] As the intercensal population increases noted earlier suggest, this had a great deal to do with international events. Moreover, these statistics, while giving an insight into the extent of in-migration, actually understate its overall importance as they do not include people who moved to Portsmouth from within Hampshire itself. Urban migration more generally tended to be over relatively short distances of between ten and twenty miles, depending on the size of the destination town.[15] Hence, in reality, the figure was much higher. This placed Portsmouth on a par with Britain's other great cities such as Manchester and Bradford.[16]

The majority of migrants who came to the port were in the child-bearing age groups. This had obvious implications for both the natural rate of increase and the age structure of Portsmouth's population. Indeed, at any given time, those over sixty accounted for between just 4 and 8 per cent of the total population.[17] Consolidated statistics for the borough do not necessarily reflect the youthfulness of Portsmouth's population, mainly because of the distortion caused by large numbers of service personnel in the port. Between 1851 and 1911 this group accounted for between one fifth and one quarter of the working population.[18] Similarly, these statistics give no

indication of the differences in population structure across the four towns. In Old Portsmouth and Portsea for example, where the military and naval presence was greatest, most people were of working age. In 1881, in excess of 75 per cent of the population in these towns was aged between 15 and 60, with the remainder made up largely by children under the age of fifteen. Conversely, in neighbouring Landport, children formed as much as 39 per cent of the population between 1851 and 1881, thus almost matching the nation's largest ever cohort of under-fifteen-year-olds in 1826. Landport also had a higher proportion of people over the age of sixty than Old Portsmouth and Portsea.[19]

Census data shows that there was also a female bias in the structure of the population. Once again, this was a common feature of urban populations during the eighteenth and the nineteenth centuries, particularly in larger towns.[20] In Portsmouth, this sex imbalance was most pronounced in the first half of the nineteenth century. At a peak in 1831, there were 6,500 more females than males living on Portsea Island. Although parity was more or less achieved by 1861, the surplus quickly re-asserted itself and thirty years later there were 6,000 more females than males again.[21] Research conducted by Stapleton shows that among single people aged twenty and over, there were always more males than females. Hence it was among the married and the widowed, that females predominated. According to his findings, the number of surplus married females rose from 1,700 in 1851 to more than 4,600 in 1901. The level of widows was similarly high and was never fewer than around 2,000 and in 1891 stood at 4,700.[22] In many ways this sex imbalance and the age bands in which this imbalance rested is hardly surprising, given that so many women in Portsmouth married soldiers and sailors. For similar reasons, the geographical distribution of the female population was also uneven across Portsmouth's four towns. In Old Portsmouth and Portsea which contained most of the army barracks and naval ships, the number of young men aged between fifteen and thirty-four always far exceeded the number of women in this age group. In the growing suburbs of Landport and Southsea the situation was reversed and women far outnumbered men.[23] However, as the next section will show, differences in the

structure of the population were not the only distinguishing features of Portsmouth's four towns.

2.2: The Four Towns

> **Portsea island is divided up into districts, each of which has a special character of its own. In old naval phraseology Chatham and Rochester were 'the two towns'; Plymouth, Devonport and Stonehouse were 'the three towns'; while Portsea, Portsmouth, Landport and Southsea were known as 'the four towns'.**
>
> *Illustrated Guide to Portsmouth and Southsea, 1896*[24]

Portsea Island was comprised of two parishes: Portsmouth, which was more or less contained within the walls of the old town; and Portsea which, with the exception of a small part to the north, covered the remainder of the island. Together, these essentially made up the borough of Portsmouth, although it was not until the early twentieth century that the municipal boundaries were extended to encompass the island in its entirety.[25] Map 2.1 below shows an outline view of Portsea Island today. Map 2.2 on the other hand reveals the extent of urban Portsmouth in 1853, showing clearly the four towns, each of which will now be considered in turn.

Map 2.1: Modern Portsea Island

Source: *The Spirit of Portsmouth: A History*, ed. by J. Webb and others (Chichester: Philimore, 1997).

Map 2.2: South-Western Corner of Portsea Island 1853, Showing the Four Towns.

Source: Stapleton, 'The Population of the Portsmouth Region', p. 109.

Old Portsmouth

Despite having existed as a settlement since before Norman times, Old Portsmouth's most substantial period of growth took place in the seventeenth and eighteenth centuries.[26] This expansion was closely linked to war, firstly with the Dutch and then more importantly the French, which saw the town prosper on the back of its role as a

key operational base for provisioning and maintaining fleets.[27] Daniel Defoe, who visited Old Portsmouth in 1724 as part of his famous tour of Great Britain, commented on this point, remarking that the town: 'besides ... being a fortification, is a well inhabited, thriving, prosperous corporation; and hath been greatly enriched of late by the fleet's having so often and so long lain there'.[28]

To a large extent this wealth and vibrancy was generated from the periodic and often large influxes of transients to the town, many of who were connected with the Royal Navy. Indeed, the whole basis of the local economy was founded on catering for the essential and recreational needs of these visitors. Point, known locally as Spice Island, functioned as a naval playground for both ratings and officers alike. Described by one contemporary observer as the 'Wapping of Portsmouth', it contained an impressive concentration of drinking-houses, liquor-shops, eating houses, tailors and drapers, pawnbrokers and trinket merchants; indeed just about everything a recently paid sailor on shore leave could possibly desire. Point's location outside of the town's walls made it accessible only through the guarded St James's Gate or by liberty boat from the ships moored at Spithead. This was ideal, as it effectively contained any boisterous behaviour and prevented pressed men from deserting, given that many of them could not swim.[29]

Inside the walls, the High Street, which wound its way along the length of the town, developed an altogether different character. *The New Portsmouth Guide* (1839) described it as a: 'very handsome street...adorned with many excellent shops: indeed its general appearance may rank it among the finest streets out of London'.[30] At its top end, near Landport Gate, were mainly private residences. Many of these belonged to affluent middle-class families, including a number of solicitors, surgeons and other professional men. The street's centre section was dominated by banks, jewellers and tailors. It also contained the town hall and a number of official residences, including those of the Port Admiral, the Commanding Officer of the Royal Marines, and the Governor, who was the officer in overall charge of Portsmouth's permanent garrison. Nearer the sea, where the High Street joined with Broad Street and Point at King James's Gate, beer sellers and builders predominated.[31]

In contrast, by the mid-nineteenth century, Old Portsmouth had ceased to be the hub of local affairs. Instead, during the Victorian era, the town's story was one of stagnation and eventual decline; a situation that was even more pronounced given the experience of neighbouring Landport and Southsea. It was during this period that age-old customs such as the Free Mart Fair ended and the municipal centre of gravity shifted across to Landport.[32] Similarly, while the periodic influxes of visitors continued, the size of the town's resident population saw little change between the beginning and the end of the century. This was partly because further civilian building around the fortifications was forbidden, leaving no room for the already overcrowded town to expand. However, this was not the only reason. The Admiralty's adoption of steam power for example, allowed more ships to anchor inside the harbour, which gradually moved the navy's recreational area to Portsea. By the time Old Portsmouth's population had peaked in 1871 at 11,169, many of the town's most affluent citizens and service officers had already left.[33] Despite the claims of Victorian guidebooks, Old Portsmouth's heyday was over. A visitor to the town in 1847 thought it 'anything but beautiful'. Twenty years later, Sir Frederick Madden, a former resident, returned to find that: 'the street leading from Point looked more miserable than ever... The Parade and High Street seemed deserted'.[34]

Portsea

During his visit, Defoe also noted that to the north of Old Portsmouth within 'the fortification raised in King William's time about the docks and yards' a new suburb was rapidly developing. So much so in fact, that he described the collection of houses he saw on Portsmouth Common to be more 'like a town by themselves...a kind of marine corporation'.[35] Defoe was, of course, referring to what eventually became the town of Portsea.

As his comments suggest, the dockyard was central to Portsea's development; it was the town's *raison d'être* and continued to be so throughout the nineteenth century. The very first houses to be built belonged to the state and were located inside the dockyard, for use by its principal officers. However, as the

importance of the dockyard and the size of its workforce continued to grow, so too did the demand for accommodation in the vicinity. The response of local landowners was swift, and strips of land were soon made available to developers on which they built rows of houses, usually grouped in twos or threes. By 1725, there were approximately four hundred properties listed on the Common outside the dockyard.[36]

In the decades that followed, Portsea's development was rapid, but it was also piecemeal, largely because the choice of where to build next depended on the willingness of landowners to sell. This gave the burgeoning settlement of Defoe's time a very utilitarian feel; it was essentially a dormitory for the dockyard. Apart from the predictably high quota of alehouses, there were no other public or community buildings to speak of. Instead, the land was divided between ever-expanding residential areas and interspersed with arable strips, market gardens, rope walks and deep gravel pits.[37] Another important consequence of this unplanned growth was that little consideration was given to the matter of drainage – an issue that was all the more important given that much of Portsmouth Common was on marshy ground.[38] Portsea's development was far from unique in this respect. In Nottingham for example, land with poor drainage around the river Leen was built on in this period without any care or precautionary measures being taken. Similar expansion also occurred in parts of Bath and Newcastle-upon Tyne.[39] At first the impact in Portsea was negligible, but by the last decades of the eighteenth century it was clear that the issue was exacerbating the more general problems associated with urban overcrowding.[40]

Although the name Portsea was not officially adopted until 1792, Portsmouth Common ceased to be a suburb of Old Portsmouth long before this.[41] Indeed, as if to emphasise its unique identity as a dockyard town, the entire community was separated from the rest of the island in the 1770s, by the building of new fortifications designed to protect the dockyard from all directions. The Poor Rate Book of 1775 listed 1,792 properties most of which were in the main streets. Like Colchester for example, and other similarly-sized towns which had also expanded quickly during the eighteenth century, Portsea was densely packed, both with

buildings and people.[42] Trade directories from the 1780s also indicate that by this time the settlement was more than just a housing estate for the dockworkers, and had developed commercial districts of its own. This matches the more general experience of the towns in the eighteenth century, which saw a marked growth in the number of shops.[43] Some of these commercial districts, including the numerous retail premises on Queen Street which ran along the centre of the town, were aimed at satisfying the everyday needs of the resident population. Others, such as the cluster of businesses along 'The Hard' (which was the road leading to the entrance of the dockyard) were obviously directed at another sort of clientele. Thronged with dockworkers, sailors and soldiers alike, The Hard was Portsea's answer to Spice Island and enjoyed the same lively character.[44]

In certain respects Portsea's development in the nineteenth century was similar to that of Old Portsmouth. Like its neighbour, the town boomed during the Napoleonic Wars and local businesses prospered as the dockyard workforce swelled to in excess of 4,000.[45] The dockyard's labour demands also fuelled high levels of in-migration around this time. During the first two decades of the century, Portsea's population increased by over 50%, reaching 12,622 in 1821, 5,000 more people than lived in Old Portsmouth.[46] Such an increase encouraged expansion outside of the walls but it also led to a high level of in-filling. The result was overcrowding which, coupled with Portsea's drainage problems, turned large areas of the town into the worse kind of industrial slums. The contraction of the dockyard workforce at the end of the war only aggravated this situation further, plunging large sections of the town's populace into desperate poverty.[47] This said, Portsea also had its fair share of affluent residential areas, centred mainly around Lion Terrace, Prince George's Street and St George's Square. Moreover, trade directories indicate that the number of local gentry with residences in the town rose steadily until the middle of the nineteenth century. By 1855, there were 184 listed, including 30 senior officers, many of who lived inside the dockyard.[48]

Unlike Old Portsmouth, whose population remained relatively stable throughout the nineteenth century, Portsea's continued to expand until the 1860s when it peaked just short of 20,000.[49] By then however, many of the town's more

affluent residents had started to leave in order to escape the overcrowding.[50] This was followed by a more general decline, which continued for the rest of the century. Rather than reflecting the fortunes of the dockyard, this had more to do with the appearance of the tramways in Portsmouth, which made the yard widely accessible from most parts of the island. Things had therefore gone full circle and Portsea ended the nineteenth century in much the same way that it started it: a hard-working, hard-living naval dockyard town with a predominately labouring-class population.

Landport

The early development of Landport was slow in comparison to Old Portsmouth and Portsea. Originally known as 'Halfway Houses' after the local inn, the town began life as a small group of buildings situated halfway along the east/west road between St Mary's church and Portsea. Throughout the eighteenth century ribbon development took place along the surrounding fields but, overall, the settlement retained a strong rural character. It was only after the start of the Napoleonic Wars that this changed, mainly because of the overspill of population from Portsea that was mentioned earlier. By the Ordnance Survey of 1810 the nucleus of a small town was evident. From this point onwards, Landport's growth steadily accelerated and continued without pause for the rest of the century.[51]

Although the town's initial development included the building of a number of detached villas and solid Victorian terraces, there was never any great need for housing of this nature. Instead, Landport's labouring classes, by far the largest and fastest growing section of the population, generated high levels of demand for cheap 'no frills' accommodation. Speculators were quick to oblige and wasted no time in exploiting the situation by buying up land and, 'without any plan of making watercourses or drains, commenced building streets, rows of houses and courts'.[52] Hence Landport quickly became a jungle of low-cost tenements, constructed from old and poor quality materials in order to maximise returns for investors. This mirrored the experience of other industrial towns such as Bradford and Birmingham, which were also characterised by the building of back-to-back terraced houses, with poor sanitation and little privacy.[53] By the mid-nineteenth century some 5,000 such

properties had been built in Landport, many of which soon fell into disrepair and became deserted, while building work continued elsewhere unabated.[54] Contemporaries were only too well aware of the town that was being created. The very title of Father Dolling's book *'Ten Years in a Portsmouth Slum'* is suggestive of Landport's character.[55] Although the book was inherently biased (being an account of his running a Christian mission in the town) its lengthy descriptions of squalor and poverty nonetheless ring true with the Landport described in more objective texts such as The *Rawlinson Report* (1850), which followed the 1849 cholera outbreak on Portsea Island.[56]

As was to be expected, with relatively few restrictions on its spatial growth compared to the fortified towns, the boundaries of Landport expanded outwards in all directions. As this occurred, previously separate communities were engulfed, creating one big urban sprawl. The Landport of this study refers to the town in its broadest sense and so includes Kingston to the north, along with other districts, such as Fratton. Pinpointing the extent of Landport's growth in population terms is therefore problematic, particularly as census returns enumerated south Landport with Southsea. However, even making allowances for this it is clear that the growth was fast, uninterrupted and of considerable magnitude. In 1801 the population (including Kingston and Southsea) was 17,039, by 1891 it was 136,887. Using population as a measurement, Landport had become almost six times larger than the other three towns put together.[57]

Perhaps unsurprisingly, given its dominance in this way, Landport gradually usurped Old Portsmouth's position as the administrative centre for Portsmouth. The building of the new guildhall in the town on land freed up by the removal of fortifications in 1876 was probably not intentionally symbolic, but it certainly emphasised the completeness of this shift. Landport's ascendancy was also helped by its central location on Portsea Island. Effectively, the town acted as the route-centre for Portsmouth, with all communication to and from the mainland passing through it. This function was enhanced further with the building of a canal terminus in 1823 and then the railway station in 1847. Commercial advantages were just one of the benefits to be derived from this situation. The aptly named 'Commercial

Road' for example, which bisected the town and formed one of the key arterial roads out of the island, supported a thriving business community. Heavily laden with traffic, busy with people and lined with shops, offices and pubs, it presented a side of Landport very different to the one highlighted by Father Dolling.[58]

Southsea

Prior to the nineteenth century, very little in the way of buildings existed to the east of Old Portsmouth's ramparts. Apart from Southsea Castle, constructed in Tudor times to protect the harbour entrance, all that was to be found was a small collection of dwellings along the landside border of Southsea Common. By the late 1860s however, a quite remarkable transformation had taken place. On what had once been open fields now stood a fashionable and populous Victorian watering hole. Although the resort never fully shed its labouring-class roots, Southsea was best known to contemporaries for its open spaces, leafy streets, up-market shopping parades and luxurious residences. It was home to the middle classes; to retired and serving naval officers and their families; and to large numbers of wealthy visitors during the summer season.[59] The contrast between Southsea and its three neighbours could not have been more complete.

The town's initial growth owed much to the Napoleonic Wars and the large influxes of people that these brought to Portsea Island. The strategic value of crown-owned Southsea Common, a large tract of marshy land with uninterrupted views of the approach to the harbour, forbade any building along the shoreline. Hence early expansion was northwards away from the sea, on land owned by Thomas Croxton, one of Portsmouth's first speculators.[60] Croxton Town as it initially became known, developed along similar lines to Landport, housing the overspill of population from Portsea. Nevertheless, despite the essentially artisan nature of the new town, a number of more substantial and desirable residences were constructed along its western and southern fringes.[61] Unlike the up-market housing in Landport, these properties offered purchasers a range of pleasing views. According to *The New Portsmouth Guide* (1835), the scene from King's Terrace was 'well adapted to deceive the mind into the belief of its being a fine open park, attached to the

mansion of a nobleman'. Those fortunate enough to be able to afford a house in this street were happy to find that Old Portsmouth was obscured from view by the elm trees that grew behind its ramparts. Rather than the usual vision of urban grime, they could enjoy watching cattle grazing on the glacis in front of the terraces.[62] Similarly, the substantial villas built on the south side of Elm Grove offered a seaview, enabling residents to observe troop manoeuvres and games of cricket on the Common. Such properties immediately proved popular with naval officers and with those affluent inhabitants of Old Portsmouth and Portsea looking for a bolthole from the overcrowding. In the space of just a few decades, Southsea established itself as the middle-class outlier to the fortified towns and by 1830, almost half of the gentry and nobility on Portsea Island resided there.[63]

In certain respects Southsea resembled places like Clifton in Bristol. During the nineteenth century Clifton was also characterised by two distinct districts: Upper and Lower. Upper Clifton was renowned for its affluence, whereas Lower Clifton presented much poorer conditions.[64] After 1830, Southsea continued to develop along similar lines. Expansion progressed in two distinct directions. To the Northeast, the town continued to mirror the development of its northerly neighbour, eventually meeting southern Landport in the 1840s. Although there were some middle-class areas, particularly in the southern most part, this part of Southsea remained essentially artisan in nature. Like Landport it was densely populated, mainly with dockworkers or those employed in activities indirectly related to the yard. Architecturally it was similar too, comprised mainly of long, closely-packed terraces, organised in a tight gridiron fashion. The other direction of growth was south-eastwards, roughly along the line followed by the Common. As any map from the mid-nineteenth century onwards will show, this part of Southsea was much less densely populated. Instead, many of the properties were very substantial, with their own grounds and driveways. This was especially so with those in the vicinity of Elm Grove near to the Common, where curved streets complimented the architectural designs of Thomas Ellis Owen, and further accentuated the differences between the north and south sections of the town. By the 1850s this select part of Southsea had reached the waterfront. Bounded by the fashionable Palmerstone Road shopping

area, it contained a greater proportion of the island's gentry and nobility than the other three towns put together. [65]

In the main, two very closely-linked factors were responsible for Southsea's growing affluence. Firstly, the initial wave of naval officers and escapees from Old Portsmouth and Portsea helped to establish and then perpetuate the town's cosmopolitan image. This in turn placed Southsea in an ideal position to profit from the second factor, which was the growing popularity amongst richer Victorians for sea-bathing and holidays by the sea. Indeed, Southsea's experience was similar to other seaside resorts which developed in this period.[66] Particularly during the second half of the century, the town played host to steadily increasing numbers of such visitors each year. In many ways this was not surprising. The arrival of the railway on Portsea Island in 1847 had made Southsea easily accessible. Moreover, the town had a great deal more to offer than just the social prospects of a summer season. There were the ships to see in the harbour; the dockyard to visit; and, furthermore, the beaches, sheltered by the Isle of Wight, were ideal for bathing as they produced only modest waves. One way to gauge the popularity of Southsea during this period is through the growth of lodging houses. These increased from just 31 in 1840 to 368 in 1885.[67] Hence, at just the time when Old Portsmouth and Portsea had begun to decline, Southsea was embarking upon a period of sustained growth and affluence, during which its population rose from an estimated 27,611 in 1861 to 49,836 by the end of the century.[68]

2.3: Industry

The visitor's attention [is directed] to those [parts of the dockyard] most likely to excite his admiration and astonishment. The anchor-forge, where anchors for ships of war are manufactured: - some of these anchors are of the enormous weight of 90 cwt. Adjacent to the forge is the copper foundry; contiguous to this are the saw mills, and the curious and perfect machinery for cutting blocks, all worked by steam power. The gun wharf covering an area of 14 acres with its immense pieces of ordnance and appropriate shots piled up in pyramids; the rigging houses, armoury, laboratory, &c., also claim particular attention. The basins and docks, with the ships in harbour form a very imposing spectacle.

Hunt & Co's Directory of Hampshire and Dorsetshire, 1852

As we have seen, travellers to Portsmouth invariably commented on the importance of naval shipbuilding to the town's industry. The usual way that they did this was through reference to the dockyard. In particular they were in awe of its immense size and the sheer scale of the industrial activity that went on within its walls. This was perfectly understandable, as during the Victorian period Portsmouth Royal Dockyard was probably the largest manufacturing enterprise in the world. [69]

Research conducted by Riley using nineteenth-century census returns (Table 2.1 below), reveals that the metalworking and engineering sector and the dress sector were also key components of Portsmouth's industrial complexion. The former, which became increasingly important over time, was closely connected with shipbuilding. Together, these sectors accounted for between 33% and 44% of Portsmouth's industrial employment. Moreover, evidence indicates that as much as 98% of all people working in these industries were employed at the dockyard. This is suggestive of the dockyard's centrality as a site for industrial activity and explains further the contemporary preoccupation with this establishment. The dress sector on the other hand, which included milliners, dressmakers, staymakers, shirtmakers, seamstresses, tailors, hatters and shoemakers, was the most important in terms of the actual numbers employed. Table 2.1 indicates that between 38% and 45% of the industrial workforce were engaged in this sector. However, unlike shipbuilding, metalworking and engineering, this form of manufacturing was widely dispersed across the town. This made it less visible, which partly explains why this sector attracted so little in the way of contemporary comment.

Table 2.1 Manufacturing Employment in Portsmouth by Principal Sectors, 1841-1911[70]

	1841		1871		1911	
	Number	%	Number	%	Number	%
Shipbuilding	1,374	26.5	3,937	34.6	5,449	20.8
Metalworking and Engineering	375	7.2	911	8.0	6,179	23.6
Dress	2,352	45.1	4,390	38.5	10,373	39.6
Baking	210	4.1	454	4.0	615	2.3
Brewing	84	1.6	190	1.7	226	0.6
Other	771	15.5	1,480	13.2	3,325	12.8
Total	5,166		11,362		26,167	

Source: R. C. Riley, 'The Industries of Portsmouth in the Nineteenth Century', *The Portsmouth Papers*, 25 (1976), 3-22, (p. 3).

Although the dress industries are deservedly considered in the discussion below, as are Portsmouth's other industries, it is the dockyard that features first and foremost. This is because in addition to being the centre for shipbuilding, metal working and engineering, it was also, without doubt, the single greatest determinant of Portsmouth's wider industrial and commercial profile. Indeed, during the nineteenth century, it would have been difficult to find a local resident who was not connected in some way with the establishment: be they a dockworker or his family; a sailor; a person whose livelihood depended on satisfying the everyday needs of the yard's workforce; or a soldier from the garrison, charged with defending the dockyard, along with the rest of the town, against an enemy attack.

Portsmouth Royal Dockyard

In contrast to the great commercial docks and shipyards famous in towns such as Liverpool and Glasgow, the Royal Dockyards were government establishments. Following the abolition of the Navy Board in 1832, overall responsibility for them passed to the Controller of the Navy, who was a permanent departmental head at the Admiralty. Below him sat the Director of Dockyards who was in charge of their general management. He conducted this through the Admiral Superintendents. These senior sea officers were in post for a maximum of five years and for the duration of

their commission took up residence at their allotted dockyard and had executive responsibility for its operation. This involved managing the yard's civilian officers, who in turn were responsible for the day-to-day work and orderly running of the yard.[71] Portsmouth Royal Dockyard was therefore a state run, non-profit making enterprise. It was also a military installation headed by an officer in the armed forces, but with an entirely civilian workforce.

As was mentioned above, the onset of the Napoleonic Wars prompted a considerable expansion in the capacity of the dockyard. Late-Georgian maps of the site indicate that by this time it already had many of the characteristics that later came to be associated with the factory system. Covering approximately ninety acres, the facilities of this vast industrial complex included dry docks, building slips, storehouses, boathouses and foundries. The Great Ropery alone measured some 1,095 feet in length. Moreover, the location of particular buildings and activities in the yard provide evidence not just of a division of labour but also that rudimentary flow production techniques were in operation.[72]

Mechanisation and the adoption of steam power were also relatively early developments. The first steam engine appeared in the dockyard in 1797 and over the next decade this new form of power quickly replaced the labour of men and horses in a whole range of processes across the site. Amongst other things, steam engines were used to pump the docks at night, and to power the cranes and sawmills. In the new metal mills (opened in 1804) they enabled an output of 36 tons of sheet to be achieved each week. Arguably, the best example of early mechanisation was the installation in 1809 of Brunel's specially designed machines for the mass production of rigging pulley blocks. These allowed 10 unskilled men to carry out work that had previously required 110 skilled blockmakers.[73] It is with some justification then that many commentators have come to regard the Georgian and Victorian Royal Dockyards as important examples of early state-controlled planning and industrialisation.[74]

Scholars have also highlighted the effect that new shipbuilding designs, technologies and materials had on the Royal Dockyards. Here, their emphasis tends to be more on the first three quarters of the nineteenth century. This is for the simple

reason that it was during this period that the Royal Navy gradually changed over from using wooden sailing vessels to iron ships driven by steam-powered screw propellers.[75] Portsmouth Dockyard was, without doubt, greatly affected by these developments, undergoing two major reorganisations during the course of the century. The first of these occurred in the late 1840s following the Admiralty's decision to fully embrace steam as a means of propulsion for most Royal Naval vessels. As a result, two new docks were added, each long enough to accommodate the new ships that were coming into service. Most notable however, was the addition of a massive seven-acre steam basin along with its associated infrastructure. When this was finally completed in 1854, it included: a railway link, a large smithery, an iron foundry and a huge two-storey steam factory, some 600 feet in length. The second reorganisation was again driven by the rapid pace of change in shipbuilding technology, this time mainly around the use of iron hulls – which permitted much larger and more powerful warships to be built. Notwithstanding the first reorganisation, it was found that Portsmouth could only handle a few of the new metal-hulled leviathans at any one time. Thus, little more than a decade after the first set of building work was complete, the Admiralty began drawing up plans for a further massive expansion. These gained parliamentary approval in 1864 on the back of growing fears of a possible war with France. By the time the 'Great Extension' was complete in 1881 the dockyard had more than trebled in size. Occupying a 221 acre site, its central feature was a 22 acre Repairing Basin which, along with yet more docks and infrastructure, was able to accommodate large numbers of the new breed of warships.[76]

Despite Portsmouth's popular associations with ships such as the Mary Rose and The Victory, the dockyard's primary work was in the repairs, refitting and fitting-out of naval vessels. According to contemporary research conducted by the Portsmouth and Portsea Literary and Philosophical Society, shipwrights in 1800 spent approximately 47 man-days on repairs to every one spent on shipbuilding.[77] This was largely because in the decades leading up to its abolition, the Navy Board's policy was to have most ships' hulls constructed privately. However, recurring problems with quality and the reliability of commercial shipyards saw the gradual

reversal of this practice.[78] Consequently, the profile of ship construction began to grow at Portsmouth and by 1849, the ratio of man-days spent on repairs to building had fallen to 2.89.[79] That said, despite the building impetus caused by the Crimean War and more latterly the growing tensions with France, repairs continued to be the dockyard's primary function throughout the nineteenth century.

As can be imagined, regardless of whether the main work was in construction or repairs, such a vast enterprise demanded huge amounts of both skilled and unskilled labour. Moreover, changes in technology brought an ever-increasing array of trades to the dockyard while, at the same time of course, making others redundant. As was noted earlier, the metalworking and engineering sectors in particular grew in prominence during the second half of the century. The importance of the dockyard as a local employer cannot be overestimated. Although the foreign and domestic situation could lead to quite substantial yearly fluctuations in the numbers employed at the yard, table 2.2 makes it clear that the overall trend was upwards. As well as being huge in numerical terms, the dockyard establishment also accounted for a very high proportion of Portsmouth's total workforce. In 1867 for example, 5,628 people worked at the yard, the equivalent of 69% of the male industrial population.

Table 2.2 Dockyard Contribution to Manufacturing Employment in Portsmouth, 1841-1901

	Portsmouth Industrial Workers (1)	Dockyard Workers (2)	(2) as % (1)	(2) as % Portsmouth Male Industrial Workers
1841	5,166	2,227	43	58
1851	8,367	2,952	35	63
1861	13,489	4,314	32	51
1871	11,362*	5,628 (1867)	49	69
1881	14,317	6,300	44	68
1891	18,421	6,232	34	53
1901	20,131	7,976	40	59

*Workers aged 20 and above only

Source: Riley, 'The Industries', p. 9.

Portsmouth's Other Industries

Beyond its obvious impact on the local labour market, the dockyard also shaped Portsmouth's wider industrial development. Although it encouraged some industries, it simultaneously stifled others. Commercial shipbuilding was a notable victim of this negative influence and was virtually non-existent in Portsmouth. Similarly, only 2% of people in the metal working and engineering sectors were employed outside of the dockyard.[80] The main reason why these and other industries failed to develop was that the Admiralty endeavoured to run the Royal Dockyards as self-sufficient enterprises. Much of this was to do with issues around quality, but what also had a bearing was the popular perception that the lack of a profit incentive made these establishments inherently inefficient and wasteful of public money.[81] So, while materials such as timber, hemp and metals were supplied by outside contractors, the dockyard made all of its own hulls, masts, ropes, chains and copper sheeting. Similarly, beer, bread and ships' biscuits were produced at the Victualling Yard in nearby Gosport, and all medical supplies were provided centrally via Haslar Hospital.[82] The dockyard was also indirectly responsible for Portsmouth's stunted growth as a commercial port. With control of much of the shoreline, the Admiralty were able to successfully oppose any developments that threatened to clutter the harbour with commercial shipping or obscure views from the coastal defences. In the 1850s for example, the Sea Lords ruled as 'entirely inadmissible' a borough council backed scheme to build commercial docks to the north of Old Portsmouth.[83]

Conversely, some industries flourished. As was noted in table 2.1 above, at least as many people worked in Portsmouth's dress industries as they did in the dockyard. The prominence of this sector was, in itself, not particularly unusual, and was increasingly characteristic of employment in many Victorian towns.[84] However, using a location quotient to make comparisons with the rest of England and Wales, Riley (whose work was referred to earlier) has demonstrated that these industries were especially well-developed in Portsmouth. In fact, he found that almost every component of the sector was over-represented.[85] With some, such as tailoring, this was hardly surprising. For the greater part of the nineteenth century, both naval officers and ratings were expected to provide their own uniforms. As a garrison and

naval dockyard town, Portsmouth was obviously well-placed to benefit from this. Although it is not clear whether ships' pursers filled their slop chests with garments and materials manufactured locally, naval officers certainly made frequent use of Portsmouth's tailors. Trade directories reveal a multitude of naval outfitters, predictably clustered in Old Portsmouth and Portsea.[86]

Yet demand from the armed forces does not explain the prevalence of dressmakers, seamstresses and staymakers. The latter two in particular were very important. According to Riley's calculations, in 1851 the percentage of seamstresses in Portsmouth was more than five times the average for the country as a whole, while the percentage of those employed making stays and corsets was a staggering fifteen times greater. These figures remained largely unchanged for most of the nineteenth century. As Riley correctly observes, this degree of localisation was comparable with carpet-making in Kidderminster or cotton in the Lancashire towns.[87] The fact that Portsmouth has never become associated with stays and corsets is undoubtedly because both contemporaries and historians alike have found it difficult to get beyond the more romantic image of a great naval port.

As with so many other aspects of life in Portsmouth, the prominence of these specific parts of the dress industries owed much to the dockyard and the port's general association with the armed forces. As we have seen, the dockyard was the single most important employer on Portsea Island. During times of war, or even when war just seemed likely, it made immense demands on the local labour market. Indeed, the growth of its workforce during the Napoleonic Wars led to in-migration on such a scale that it kick-started the development of Portsea, Landport and Southsea as towns in their own right. Significantly though, the dockyard only employed men and boys. Hence its steady expansion from the late-eighteenth century onwards created a large pool of female labour in Portsmouth, while at the same time its stifling influence on local industry and commerce reduced the range of employment options open to women and drove down their wages. This effect was heightened by the frequent and often substantial yearly fluctuations in the numbers employed at the dockyard. As well as causing financial uncertainty for many dockworkers and their families, it also ensured that the wages earned by women

were an especially vital component of the economy of makeshifts in these households.[88] The large numbers of servicemen and their families in Portsmouth also helped to swell the size of the female workforce. Similarly, the long absences of soldiers and sailors, and the often erratic nature of their pay, intensified the dependence of many labouring-class families on female wage earners. In 1843, the manager of Messrs Silver and Co, who employed some 3,000 homeworkers from their depots at Portsea and Landport, explained that 'this business (shirtmaking) is a great service to poor families, especially when, as often happens, the husband is at sea'.[89]

Portsmouth then, had an abundance of cheap female labour, but the opportunities for exploiting this were limited. This was only partly due to the dockyard's influence. The traditionally female-dominated pottery and textile industries for example, were not attracted to the locality because of a lack of nearby resources. There was also little scope for expansion in industries such as brewing and baking, which relied heavily on local markets.[90] The dress industries on the other hand had no such dependencies and for many women they offered the only alternative to domestic service. The sole local resource that these industries needed was a plentiful supply of cheap labour. Moreover, the goods that they produced were for national and even international markets.[91] Portsmouth was also ideally suited to the operation of the 'putting out' system, given that many of the women seeking work were already married.[92] Although some factories were built, especially by stay and corset manufacturers, they were few in number before 1860 and even after this date tended to be small in size. It is clear from trade directories and local newspapers that most entrepreneurs in Portsmouth's dress industries were able to dispense with this overhead, expecting the women that they employed to work from home.[93] Such an arrangement suited both parties, as it enabled women to care for their children and, in many cases, probably helped turn the whole manufacturing process into a family enterprise.[94]

Portsmouth's industrial profile was therefore characterised by divisions between male and female employment; state and private ownership; dockyard and town as sites of industrial activity. Approximately 40% of the manufacturing

workforce was engaged in shipbuilding, engineering and metalworking. These sectors had an almost exclusively male workforce and were grouped together in the Royal Dockyard, a vast, state-run industrial complex. A similar percentage of workers were employed in the dress industries. In contrast, these comprised a multitude of small, privately-owned businesses, widely dispersed across the town and heavily reliant on female labour. The remainder of the civilian workforce was distributed amongst a range of industrial and commercial sectors, most of which were connected in some way with providing for the domestic needs of those resident or visiting Portsmouth. A sizeable number of people for example, were employed in the manufacture and retail of food and drink, with the brewing industry in particular benefiting from the military and naval presence.[95] In addition, domestic servants consistently accounted for around ten per cent of the working population. As was to be expected, their geographical distribution reflected that of social class and from the 1840s onwards many were clustered in the southern half of Southsea.[96]

It should be very clear by now that the dockyard was central to industrial and commercial activity in Portsmouth; its influence was felt across all sectors. Yet, because of the Admiralty's policy of self-sufficiency, it was at the same time isolated and separate in many ways. The dockyard was a key source of employment for wage labour, but it did little to encourage local manufacturing industry, nor did it forge much in the way of direct links with the town's businesses. With industrial development circumscribed in this way, capital accumulation in Portsmouth was very slow. Although wealthy industrialists existed, they were not numerous, simply because there were only very limited opportunities for dockyard supply contracts. Moreover, the emergence of an incipient middle class, so characteristic of other industrial towns at this time, was much less pronounced in Portsmouth.[97] Indeed, this state of affairs only really began to change in the 1860s, with the emergence of stay and corset factories that were capable of generating wealth and with the development of Southsea as a fashionable holiday resort.[98]

2.4: Conclusion

As we have seen, Portsmouth had a number of distinguishing features – notably its connections with the Royal Navy and the heavy concentration of industrial activity in the Royal Dockyard. As a consequence events on the international stage often had repercussions locally. Portsmouth was also comprised of four separate, but closely linked towns, each of which had its own particular character. As far as research goes this is very positive as it allows healthcare provision to be examined separately in each town as well as studied collectively and comparatively.

Notwithstanding the above, a key thing to emerge from this chapter is that Portsmouth's overall development was remarkably similar to other large towns and ports in the nineteenth century. It too underwent rapid urbanisation and population growth, while aspects of its industrial experience can be likened to that more commonly associated with the north of England. Moreover, its demographic profile, with a young population and sex imbalance in favour of women, also followed the patterns observed in many urban areas. These points are raised for two separate reasons. Firstly, they tell us that Portsmouth was far from unique. Very importantly, this establishes that the general circumstances in Portsmouth precisely matched the context in which Digby believes that the medical market evolved.[99] In other words, it should be possible to draw portable lessons from its study. Secondly, with processes such as rapid urbanisation and population growth underway, one might hypothesise that demand for healthcare, especially in ports, became very unstable. Hence, factors such as variations in institutional policy, imbalances in the sex ratio and age of their populations and its transient nature, the through-flow of servicemen, mortality at sea and epidemics might all have been expected to have an observable impact on markets and the way local healthcare provision developed. The extent to which this happened is examined in the chapters ahead.

[1] T. Pennant, *A Journey from London to the Isle of Wight*, 2 vols (London: Edward Harding, 1801), I, p. 123 & 131.

[2] Hereafter the word 'Portsmouth' is used to refer to the four towns collectively.

[3] R. Riley, *Portsmouth: Ships, Dockyard & Town*, (Stroud: Tempus, 2005), pp. 9-12.

[4] R. C. Riley and J. Chapman, 'The Nineteenth Century' in *The Portsmouth Region*, ed. by B. Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 72-82 (p. 72).

[5] J. M. Ellis, *The Georgian Town 1680-1840* (Basingstoke: Palgrave, 2001), p. 34.

[6] Quoted in J. Field, 'Wealth, Styles of Life and Social Tone Amongst Portsmouth's Middle Class, 1800-75', in *Class, Power and Social Structure in British Nineteenth-Century Towns*, ed. by R. J. Morris (Leicester: Leicester University Press, 1986), pp. 67-104 (p. 69).

[7] D. H. Jacks and M. Lynch, 'Ports 1540-1700', in *The Cambridge Urban History of Britain, 1540-1840*, ed. by P. Clark, 3 vols (Cambridge: Cambridge University Press, 2000), II, 377-424, (pp. 382-86); R. Sweet, *The English Town 1680-1840: Government, Society and Culture* (Harlow: Pearson Educational, 1999), pp. 11 & 19. The same was also true of population growth in European ports: Jan de Vries, *European Urbanisation 1500-1800* (London: Methuen, 1984), pp. 141-142. The urban development of British ports is covered by: G. Jackson, 'Ports 1700-1840' in *The Cambridge Urban History of Britain, 1540-1840*, ed. by P. Clark, 3 vols (Cambridge: Cambridge University Press, 2000), II, 705-731; S. Palmer, 'Ports' in *The Cambridge Urban History of Britain*, ed. by M. Daunton, 3 vols (Cambridge: Cambridge University Press, 2000), III, 133-150. Recent work by W. R. Lee provides a European context, see: W. R. Lee, 'Configuring the City: In-Migration, Labour Supply and Port Development in Nineteenth-Century Europe', *International Journal of Maritime History*, XVII (2005), 91-122.

[8] Ellis, *The Georgian Town*, appendix 1.

[9] Ellis, *The Georgian Town*, p. 8.

[10] For an analysis of population growth in England after 1750 see: A Hinde, *England's Population: A History Since the Domesday Survey* (London: Hodder Arnold, 2003), chapter 11; R. Woods, *The Demography of Victorian England and Wales* (Cambridge: Cambridge University Press, 2000).

[11] B. Stapleton, 'The Population of the Portsmouth Region', in *The Portsmouth Region*, ed. by B. Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 83-117 (pp. 102-3).

[12] Riley and Chapman, 'The Nineteenth Century', pp. 72-73.

[13] P. M. Hohenberg and L. Hollen Lees, *The Making of Urban Europe 1000-1950* (London: Harvard University Press, 1985), p. 179.

[14] Stapleton, 'The Population', p. 115.

[15] Ellis, *The Georgian Town*, p. 29.

[16] D. Feldman, 'Migration', in *The Cambridge Urban History of Britain*, ed. by M. Daunton, 3 vols (Cambridge: Cambridge University Press, 2000), III, 185-206, (p. 185).

[17] Stapleton, 'The Population', p. 116.

[18] Riley and Chapman, 'The Nineteenth Century', p. 76.

[19] Stapleton, 'The Population', pp. 115-16.

[20] Ellis, *The Georgian Town*, p. 30.

[21] Stapleton, 'The Population', pp. 111-12.

[22] Stapleton, 'The Population', p. 112.

[23] Stapleton, 'The Population', p. 112.

[24] *Illustrated Guide to Portsmouth and Southsea* (Portsmouth: Charpentier, 1896).

[25] S. E. Peacock, 'Borough Government in Portsmouth, 1835-1974', *The Portsmouth Papers*, 23 (1975), 3-22 (pp. 3-5 & 18).

[26] Stapleton, 'The Population', pp. 91-97.

[27] *The Spirit of Portsmouth: A History*, ed. by J. Webb and others (Chichester: Philimore, 1997), p. 21.

[28] D. Defoe, *A Tour Through the Whole Island of Great Britain*, ed. by P. Rogers, (London: Penguin, 1971) pp. 151-52.

[29] Webb and others, *The Spirit*, p. 23.

[30] *The New Portsmouth Guide, 1839* (Portsmouth: Charpentier, 1839), p. 11.

[31] *The Portsmouth Guide* (Portsmouth: Hollingsworth, 1823), p. 7; J. Webb, 'An Early Victorian Street: The High street, Old Portsmouth', *The Portsmouth Papers*, 26 (1977), 3-23 (pp. 3-4); *The Spirit*, pp. 73-74.

[32] J. Webb, 'Portsmouth Free Mart Fair: The Last Phase 1800-1847', *The Portsmouth Papers*, 35 (1982), 3-22.

[33] Stapleton, 'The Population', p. 104; Webb and others, *The Spirit*, p. 25.

[34] Quoted in Webb and others, *The Spirit*, p. 24.

[35] Defoe, *A Tour*, p. 151.

[36] Webb and others, *The Spirit*, p. 25.

[37] Webb and others, *The Spirit*, pp. 25-26.

[38] H. Slight, and J. Slight, *Chronicles of Portsmouth* (London: Lupton Relfe, 1828), pp. 225-26.

[39] Ellis, *The Georgian Town*, p. 88.

[40] *Extracts from the Records in the Possession of the Municipal Corporation of the Borough of Portsmouth and from Other Documents Relating Thereto*, ed. by R. East (Portsmouth: Henry Lewis, 1891), pp. 289-95. The more general effects associated with urban overcrowding in this period are discussed in S. Szreter and A. Hardy, 'Urban Fertility and Mortality Patterns', in *The Cambridge Urban History of Britain*, ed. by M. Daunton, 3 vols (Cambridge: Cambridge University Press, 2000), III, pp. 629-672, (pp. 632 & 642-643).

[41] East, *Extracts From the Records*, p. 294.

[42] Ellis, *The Georgian Town*, pp. 87-89.

[43] J. Stobart, A. Hann and V. Morgan, *Spaces of Consumption: Leisure and Shopping in the English Town, c.1680-1830* (London: Routledge, 2007), pp. 13-18.

[44] Webb and others, *The Spirit*, p. 27.

[45] J. Field, 'Portsmouth Dockyard and its Workers 1815-1875', *The Portsmouth Papers*, 64 (1994), 3-22 (p. 7).

[46] Stapleton, 'The Population', p. 104.

[47] Slight and Slight, *Chronicles of Portsmouth* p. 230-3; Webb and others, *The Spirit*, p. 28.

[48] Webb and others, *The Spirit*, p. 28.

[49] Stapleton, 'The Population', p. 104.

[50] R. C. Riley, 'The Growth of Southsea as a Naval Satellite and Victorian Resort', *The Portsmouth Papers*, 16 (1972), 3-25 (pp. 3-5).

[51] Webb and others, *The Spirit*, p. 29.

[52] These comments were made by the chairman of Portsea's Highways Board and are quoted in: Webb and others, *The Spirit*, p. 29.

[53] K. Morgan, *The Birth of Industrial Britain: Social Change, 1750-1850* (London: Pearson, 2004), p. 25.

[54] Webb and others, *The Spirit*, p. 29.

[55] R. R. Dolling, *Ten Years in a Portsmouth Slum* (London: Swan Sonnenschein, 1897).

[56] Dolling, *Ten Years*, in particular Chapters 1 & 2; R. Rawlinson, *Report to the General Board of Health on the Sewage, Drainage and Water Supply of Portsmouth* (1850), pp. 22-30.

[57] Stapleton, 'The Population', p. 104.

[58] Webb and others, *The Spirit*, p. 29.

[59] 'The Growth of Southsea', pp. 3-25; R. C. Riley, 'The Houses and Inhabitants of Thomas Ellis Owen's Southsea', *The Portsmouth Papers*, 32 (1980), 3-23 (p. 3).

[60] Thomas Croxton reputably netted 17,000*l.* from the sale of the land in 1806, see Slight and Slight, *Chronicles of Portsmouth*, p. 224.

[61] Riley, 'The Growth of Southsea', pp. 3-6.

[62] *The New Portsmouth Guide* (Portsmouth: Hollinsworth, 1835), p. 6.

[63] Riley, 'The Growth of Southsea', p. 4.

[64] P. S. Brown, 'The Providers of medical Treatment in Mid-Nineteenth-Century Bristol', *Medical History*, 24 (1980), 297-314 (p. 300).

[65] Riley, 'The Growth of Southsea', pp. 6-8.

[66] J. K. Walton, *The English Seaside Resort: A Social History 1750-1914* (New York: Leicester University Press, 1983), pp. 1-4 & 45-73.

[67] Riley, 'The Growth of Southsea', p. 17.

[68] Riley, 'The Growth of Southsea', p. 12.

[69] Field, 'Portsmouth Dockyard', p. 2.

[70] Riley defines manufacturing as follows: 'manufacturing is held to be the transformation of one item into another of greater value, so that building and services such as banking and accounting are excluded. Dealers do not qualify, nor do general labourers who may or may not be employed in manufacturing, and those of independent means are also disregarded', (p.3).

[71] *A Guide to the Naval Records in the National Archives of the UK*, ed. by R. Cock and N.A.M. Rodger (London: University of London School of Advanced Study Institute of Historical Research, 2006), p. 163; Field, 'Portsmouth Dockyard', pp. 4-7; N.A.M. Rodger, *The Admiralty* (Lavenham: Dalton, 1979), pp. 98-104.

[72] R. C. Riley, 'The Industries of Portsmouth in the Nineteenth century', *The Portsmouth Papers*, 25 (1976), 3-22 (p. 4).

[73] Riley, 'The Industries', pp. 6-7.

[74] For indicative examples of this literature see: J. G. Coad, *The Royal Dockyards, 1690-1850: Architecture and Engineering Works of the Sailing Navy* (Aldershot: Scolar (for) Royal Commission on the Historic Monuments of England, 1989); C. C. Cooper, 'The Production Line at Portsmouth Block Mill', *Industrial Archaeology Review* [Great Britain], 6 (1981-2), 28-44; B. Dietz, 'Dikes, Dockheads and Gates: English Docks and Sea Power in the Sixteenth and Seventeenth Centuries', *Mariner's Mirror*, 88 (2002), 144-154; C. I. Hamilton, 'The Childers Admiralty Reforms and the Nineteenth-Century "Revolution" in British Government', *War in History*, 5 (1998), 37-61; J. M. Haas, *A Management Odyssey: The Royal Dockyards, 1714-1914* (Lanham, Md.: University Press of America, 1994); R. A. Morriss, 'Samuel Bentham and the Management of the Royal Dockyards, 1796-1807', *Bulletin of the Institute of Historical Research* [Great Britain], 54 (1981), 226-240; R. Morriss, *The Royal Dockyards During the Revolutionary and Napoleonic Wars* (Leicester: Leicester University Press, 1983).

[75] For recent contributions see: D. K. Brown, *Warrior to Dreadnought: Warship Development 1860-1905* (London: Chatham Publishing, 1997); D. K. Brown, *Before the Ironclad: The Development of Ship Designs, Propulsion, and Armament in the Royal Navy, 1815-60* (London: Conway Maritime, 1999).

[76] Riley, 'The Industries', pp. 4-12; R. C. Riley, 'The Evolution of the Docks and Industrial Buildings in Portsmouth Royal Dockyard 1698-1914', *The Portsmouth Papers*, 44 (1985), 3-31 (pp. 11-25); *Portsmouth Ships, Dockyard & Town*, p. 38.

[77] Portsmouth and Portsea Literary and Philosophical Society, 'Statistics of Portsea Island', *Journal of the Statistical Society*, XVI (1853), 201-243 (p. 219).

[78] Riley, 'The Industries', p. 7.

[79] Portsmouth and Portsea Literary and Philosophical Society, 'Statistics of Portsea Island', p. 219.

[80] Riley, 'The Industries', p. 4.

[81] Field, 'Portsmouth Dockyard', p. 10.

[82] Riley, 'The Industries', p. 4.

[83] Riley and Chapman, 'The Nineteenth Century', p. 77. The Admiralty's policy of self-sufficiency in respect of the Royal Dockyards and their control over areas of shoreline had a similar stifling effect on industry and commerce in other naval dockyard towns, see Palmer, 'Ports', p. 135. Many naval ports (Portsmouth included) were sited strategically for both ease of defence and proximity to prospective enemies. As such, they frequently lacked a coherent trading hinterland and foreland, which further hindered their commercial development. See: R. C. Riley and J. L. Smith, 'Industrialization in Naval Ports: The Portsmouth Case', in *Cityport Industrialization and Regional Development: Spatial Analysis and Planning Strategies* ed. by B. S. Hoyle and D. A. Pinder (Oxford: Pergamon, 1981), pp 133-50, (133-34).

[84] D. Bythell, *The Sweated Trades: Outwork in Nineteenth-Century Britain* (London: Batsford Academic, 1978), pp. 65-80; J. K. Walton, 'Towns and Consumerism' in *The Cambridge Urban History of Britain* (See Palmer, above), pp. 715-44, (p. 732).

[85] Riley, 'The Industries', p. 12.

[86] Riley, 'The Industries', p. 12.

[87] Riley, 'The Industries', p. 14.

[88] The term 'economy of makeshifts' was first used by Hufton to describe the various strategies that the poor in eighteenth-century France employed to make ends meet. See: O. Hufton, *The Poor of Eighteenth Century France 1750-89* (Oxford: Clarendon Press, 1974), pp. 107-27.

[89] Quoted in Bythell, *The Sweated Trades*, p. 72.

[90] Riley, 'The Industries', p. 15.

[91] A discussion on the clothing industries in general can be found in Bythell, *The Sweated Trades*, chapter 2. Bythell also notes that in addition to Portsmouth, other dockyard and seaport towns such as Devonport and Poole, were also leading centres for outdoor needlework in the mid-nineteenth century, p. 72.

[92] A full definition of the 'putting out' system can be found in Bythell, *The Sweated Trades*, pp. 12-19. Organising production along these lines was common in many manufacturing industries. See S. King and G. Timmins, *Making Sense of the Industrial Revolution: English Economy and Society 1700-1850* (Manchester: Manchester University Press, 2001), pp. 39-49.

[93] Riley, 'The Industries', p. 15.

[94] The putting-out system often involved whole families. See King and Timmins, *Making Sense of the Industrial Revolution*, p. 39.

[95] Riley, 'The Industries', p. 18.

[96] Riley and Chapman, 'The Nineteenth Century', p. 79.

[97] Riley, 'The Industries', p. 4. For the development of the middle class in industrial towns of this period see: R. J. Morris, 'The Middle Class and British Towns and Cities of the Industrial Revolution, 1780-1870', in *The Pursuit of Urban History*, ed. by D. Fraser and A. Sutcliffe (London: Edward Arnold, 1983), pp. 286-305, (p. 287); R. J. Morris, 'Structure, Culture and Society in British Towns', in *The Cambridge Urban History of Britain*, ed. by M. Daunton, 3 vols (Cambridge: Cambridge University Press, 2000), III, 395-426, (pp. 400-1); R. Trainor, 'The Middle Class', in *The Cambridge Urban History of Britain*, ed. by M. Daunton, 3 vols (Cambridge: Cambridge University Press, 2000), III, 673-713.

[98] Field, 'Wealth, Styles of Life', pp. 67-104; Riley, 'The Industries', p. 19.

[99] A. Digby, *The Evolution of British General Practice 1850-1948* (Cambridge: Cambridge University Press, 1994), p. 95.

Chapter Three

The Geography of Healthcare Provision in Portsmouth

The medical market hypothesis and its supporting literature has provided us with a number of useful generalisations about the development of healthcare provision. Its broad national focus has, however, been to the detriment of achieving a thorough understanding of how this provision developed at a local and regional level. Although scholars such as King and Weaver, Marland and more recently Michael Brown have started to address this deficiency in the historiography, there is still a long way to go.[1] In particular, the significance of the geographical distribution of provision within a locality, and what this might tell us about the relationship between providers and consumers, has been largely overlooked. Back in the early 1980s P. S. Brown's work tracing the numbers and locations of healthcare providers in mid-nineteenth-century Bristol, hinted tantalisingly at what might be achieved by pursuing this line of enquiry.[2] Since then few have taken on this difficult task; even Brown himself apparently failed to recognise the value of presenting his findings in a cartographical format.[3] Indeed the historical geography of healthcare provision in eighteenth and nineteenth-century England has barely begun to be written.[4] While Digby has given us a basic chronological outline of the regional differences in the distribution of private orthodox practitioners, we still have little idea about how provision as a whole was apportioned within these regions.[5] At best, all we can say with any confidence is that urban areas tended to be better catered for than rural.[6]

This chapter is comprised of two main sections. In the first, the changing geographical location of healthcare providers in Portsmouth is charted on a series of maps spanning the nineteenth century. These maps are accompanied by a commentary which sets them within their historical context and draws attention to a number of emerging trends. Although this approach is new to the history of medicine, it does draw on the traditions established in other disciplines, notably the history of retailing.[7] The second section is devoted to analysing and explaining these trends. What is attempted here is without precedent: never before has the medical

market hypothesis been subjected to scrutiny in this way. By adopting such an original approach there is scope for a reinterpretation of our understanding of the development of healthcare provision and the ways in which providers related to one another, their locality and to healthcare consumers.

3.1: The Maps

> 'The world can doubtless never be known by theory: practice is absolutely necessary; but surely it is of great use to a young man, before he sets out for that country, full of mazes, windings, and turnings, to have at least a general map of it, made by some experienced traveller'
>
> *Lord Chesterfield*

Constructing the Maps

Plotting the location of healthcare providers on a map sounds like a fairly straight-forward task, but in reality it is a surprisingly complex undertaking. In Portsmouth's case the usual issues of a fragmentary historical record are compounded by the fact that much of the city was rebuilt following the extensive bomb damage of World War Two. Consequently many streets have either changed in name or have disappeared altogether. Although the maps which follow detail the geographical location of major state and charitable providers, their emphasis is on the private sector; specifically orthodox practitioners and chemists. There are four sets of maps in all, each of which relates to a different time period. These maps plot providers not only within Portsmouth's individual towns but also collectively on larger-scale maps covering Portsea Island. The advantage of the latter is that they give a much clearer visual impression of the overall distribution of provision. Maps, of course, represent a snapshot in time. This is especially so with those which detail the geographical distribution of a particular population or entity. Hence those presented within each period need to be understood as indicative of the prevailing situation. Viewed collectively however, the four sets of maps visibly convey change over the century. As will become clear, the four periods to which the maps relate were not chosen arbitrarily. Instead, they were carefully selected to coincide (as far as was possible) with discernible phases in Portsmouth's spatial development and other important

aspects of its history, notably changes at the Royal Dockyard. Due to the local nature of the study being undertaken, this method of dividing the century was preferred over other alternatives, such as phases in medical understanding. By adopting such an approach, the periods chosen provide a contextual framework in which to locate the discussion both in this and subsequent chapters.

The maps' construction was based heavily on data extracted from trade directories. These versatile, yet strangely under-utilised historical sources are a gold mine of precious information. Although there are chronological variances in the way that they were compiled and in their actual format, they commonly record the same basic things. [8] In the 'Court Section' the names, and often the addresses of local nobility, gentry, clergy and other principal residents, are recorded. In the 'Commercial Section' there is an alphabetical listing of the town's businesses, along with the addresses of their premises and details of the trading or proprietor's name. Generally speaking, the further into the nineteenth century you go, the more comprehensive and useful directories become. This is because as contemporary demand for commercial information grew, so trade directories started to be produced professionally, which required their compilers to employ more rigorous methods of data collection. Certainly by the middle of the century, those relating to Portsmouth frequently included details on the organisation of local government along with information concerning state and charitable healthcare providers. Used in conjunction with historic maps, and the landmarks provided by surviving buildings from the period, it is therefore feasible to accurately plot the geographical location of some healthcare providers in Portsmouth. In most cases their exact position could be determined within a given street and plotted accordingly. Where this was not possible they have been placed evenly along the roads in question.

Notwithstanding their value as historical sources, it is important to recognise that trade directories do not list every private provider that operated in Portsmouth. Some for example would not have paid to be included. Nor do trade directories easily capture networks between providers or the mobility of practitioners.[9] Due to their very nature, the data they yield is biased towards orthodox practitioners and chemists practising or trading from fixed premises. The maps produced from trade

directories, though comprehensive, are therefore partial in certain respects. It is clear from other sources that Portsmouth, like every other town at this time, had its fair share of transient unorthodox practitioners such as travelling quacks, none of who are listed in trade directories.[10] Women healers are also under-represented. While those who worked as chemists, druggists and herbalists (and thus might be expected to also dispense medical advice and treatment) did appear occasionally in trade directories for Portsmouth, those who were first and foremost medical practitioners were not listed at all. This was not because such practitioners did not exist, but merely reflected the fact that until the Medical Act of 1876 women were effectively barred from obtaining formal medical qualifications.[11]

The use of census returns would, arguably, have allowed more comprehensive maps to be drawn. Recent work by Davies has started to uncover a number of female practitioners in this way. However, as he readily admits, tracing healthcare providers via this source presents considerable logistical and methodological problems.[12] P.S. Brown's study of Bristol illustrates these well. For example, he found small numbers of providers that were listed in trade directories but not corresponding census returns and vice versa. Ambiguities also arise over the occupational descriptions in census', particularly around terms such as 'doctor', which cannot necessarily be taken to denote a medical practitioner. Hence, given the scope of this research, which seeks to trace the development of healthcare over a whole century as opposed to a much shorter timeframe, it was not considered practical or worthwhile to extend the net in this way. Medical advertisements, which King notes can be employed to gauge the ratio between orthodox and unorthodox practitioners, have not been used in the maps' construction for much the same reasons.[13] Any providers omitted as a result have not, however, been overlooked. They are dealt with thoroughly in chapter four, as are provider networks and practitioner mobility.

Trade directories were the sole resource drawn on to map of chemists. In respect of doctors, provincial medical directories were used as well. Provincial medical directories were produced periodically up until the middle of the nineteenth century and annually thereafter. As well as listing orthodox practitioners by location,

they also provide a potted summary of their careers to date. Medical directories were also employed to tackle various ambiguities that arose from the use of trade directories. For example, practitioners appearing in the court, but not the commercial listings, was occasionally an issue. In fact, in some instances, doctors were only listed in the court section. Based on trade directories alone, it was impossible to tell whether or not these individuals were practising privately and thus eligible for inclusion on a given map. Reference to the corresponding medical directory was usually enough to resolve this type of problem. In most cases it was a straightforward matter to differentiate between those doctors who had private practices (hence included) and those who were retired or held full-time posts with state or charitable providers, such as the resident surgeons at H.M. Convict Prison, Portsea (excluded).[14]

As a rule of thumb, all practitioners detailed within the commercial listings of trade directories have been plotted. Those whose status was in any doubt (which amounted to no more than a few in any given year) were dealt with on a case-by-case basis, with medical directories being the other main record consulted. In order to avoid over-complicating the maps, no distinction has been made on them between physicians and surgeons; nor is there any differentiation between civilian and naval or military practitioners known to be practising privately. Instead, notable variances and other pertinent points relating to the location and distribution of different types of practitioners is mentioned specifically in the accompanying commentary and analysis.

The final point to note before moving on to looking at the maps themselves is that certain counting procedures were used in their construction. These same procedures were applied consistently to all other data presented in this thesis. Where doctors are concerned, the actual number of practitioners has been used. Chemists on the other hand have been counted and plotted based upon the number of retail premises that they occupied. For example, the chemist Jason Childs, 2 Palmerstone Road, Southsea, was counted once and plotted once. Conversely, Timothy White, 158 & 160 Commercial Road, Landport, was considered as two counts and plotted accordingly.[15] The reason for adopting this approach is that trade directories provide

no specific information concerning the size and turnover of the businesses that they list. Hence one is forced to look to the unwitting evidence provided by their address as a means of mitigating this issue.[16]

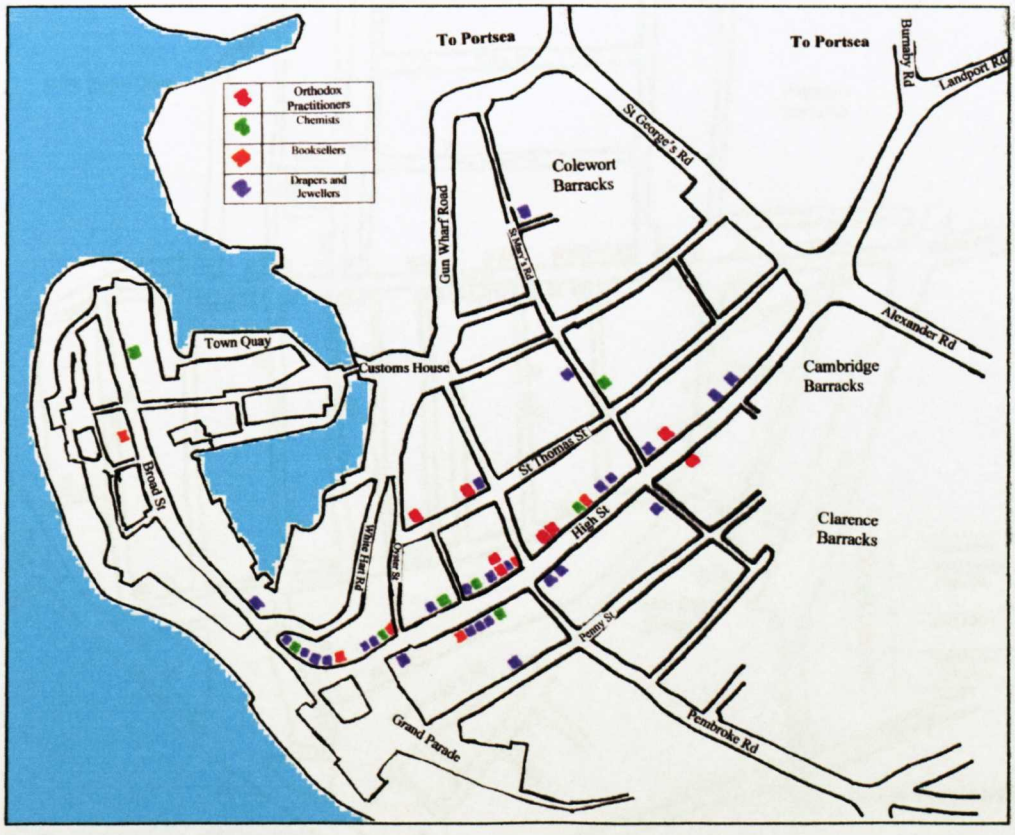
Period One: 1815-1843

The first set of maps covers the period after the Napoleonic Wars when Portsmouth's fortunes took an abrupt and prolonged turn for the worse. This downtown was caused by the inevitable cuts which occurred as the Royal Navy was returned to a peacetime footing. Unemployment and poverty afflicted large sections of the population almost as soon as hostilities ended. This was hardly surprising; between 1814 and 1817 the number of men (excluding officers) voted in the Navy Estimates dropped from 140,000 to a mere 19,000.[17] Portsmouth's woes were augmented in the years that immediately followed. Once the dockyard had played its part in the decommissioning of naval vessels, thousands of workers were laid off. From a wartime peak of 3,582 in 1813, the establishment fell to 2,200 in 1822 and was further reduced to 1,610 in 1830.[18] As was to be expected, given Portsmouth's unique relationship with the navy and its dependence on the dockyard, the problems caused by the 'Great Slump' were widespread. In an effort to ease the situation, pleas were published imploring shopkeepers to purchase locally manufactured goods. People were also asked to give jobs, however small, to unemployed shoemakers and tailors.[19] There were few signs of tangible improvement to this situation until the 1840s. The year 1843 (which ends our first period) had important ramifications for Portsmouth as it marked the general introduction of steam power as the means of propulsion in Royal Naval vessels.[20] Ultimately, this served to revitalise the dockyard and with it Portsmouth's general prosperity.

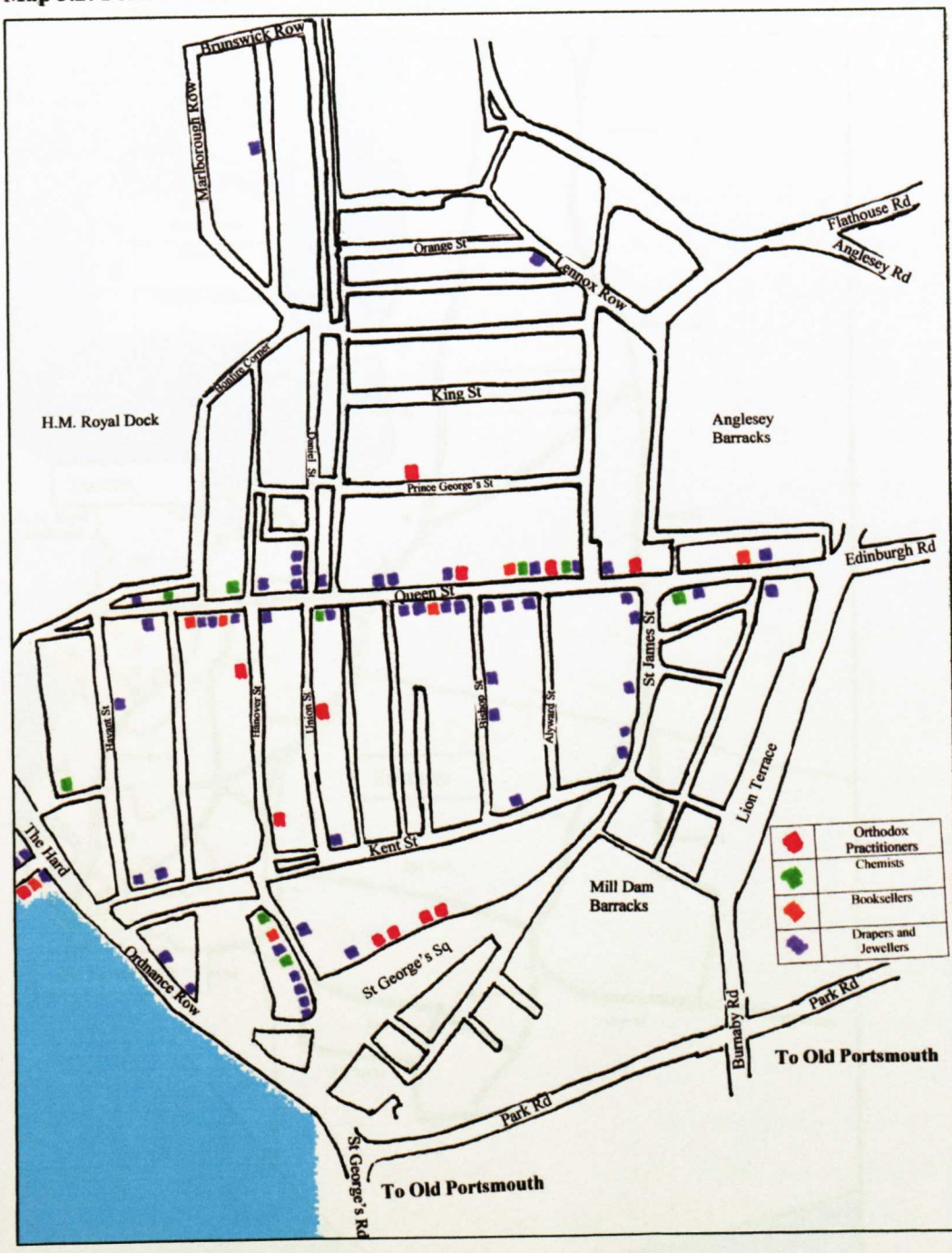
Maps 3.1 to 3.3 show the distribution of providers midway through the first period.[21] Although trade directories have survived prior to this date, 1830 is the first year where the information that they contain is comprehensive enough to allow detailed maps to be constructed. The maps relating to individual towns (3.1 & 3.2) also plot a range of other businesses. This is so that the location of healthcare providers can be appreciated in relation to each town's commercial area(s). The

same method has been used to identify commercial areas in later maps. Individual maps for Southsea and Landport have not been included. While the nucleus of each town was in evidence by this time, neither warranted a separate listing in the trade directory for 1830. The distribution of providers in these two towns is adequately captured in map 3.3, which presents a collective view of the situation on Portsea Island.

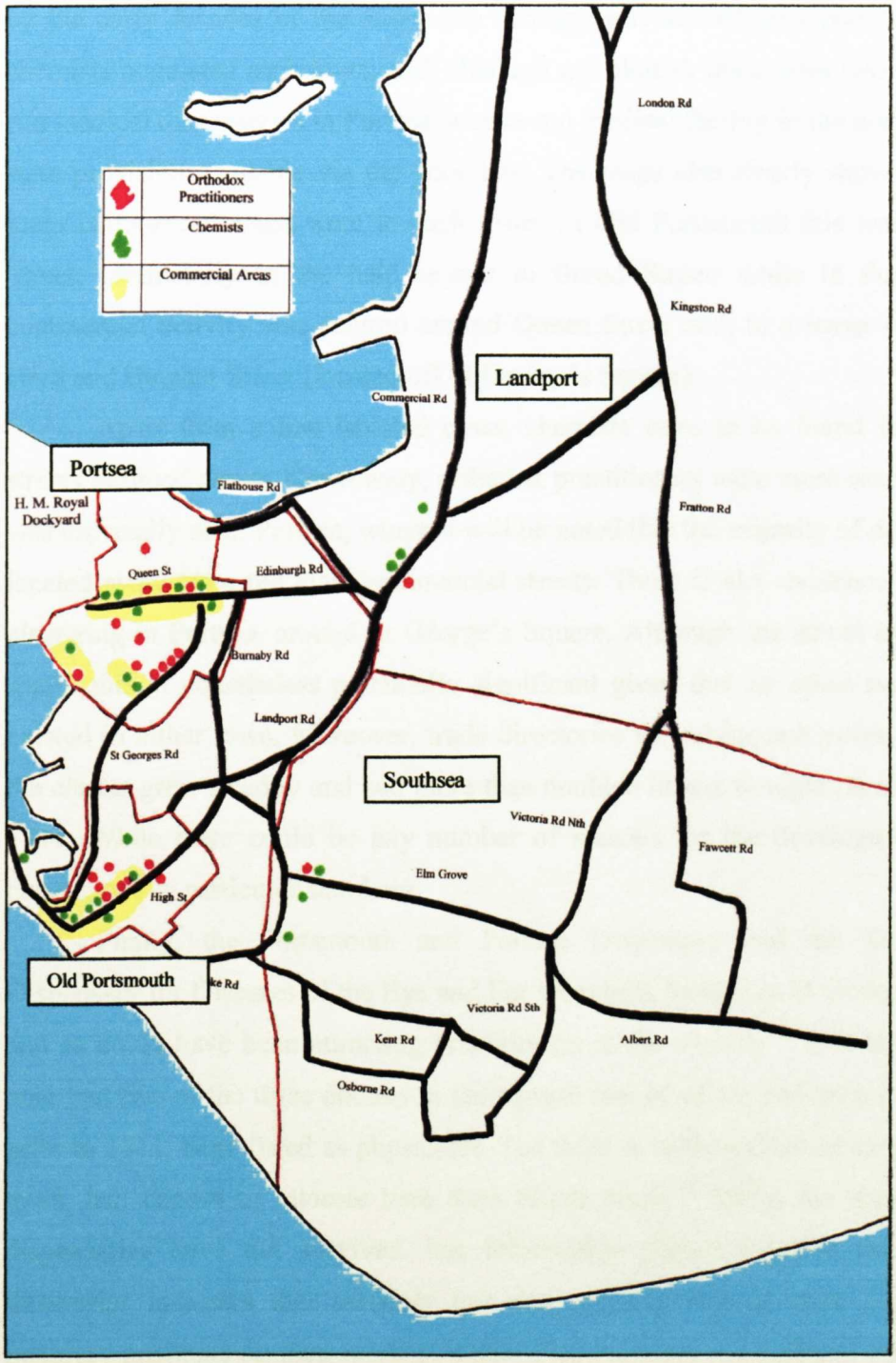
Map 3.1: Old Portsmouth 1830



Map 3.2: Portsea 1830



Map 3.3: Collective Map Portsea Island 1830



Starting with the individual maps of Old Portsmouth and Portsea (3.1 & 3.2), a number of observations can be made. In line with the first generalisation of the medical market hypothesis, all three sectors of provision were present in Portsmouth by the early decades of the nineteenth century: private orthodox practitioners and chemists populated each town; and, although not plotted, there were two charitably-run medical dispensaries in Portsea; a state-run medical facility in the dockyard; and state provision available via the poor law. The maps also clearly show where the main commercial areas were in each town. In Old Portsmouth this was the High Street, particularly in the half nearest to Broad Street; while in Portsea most commercial activity was centred around Queen Street and, to a lesser extent, The Hard and Butcher Street (located off St George's Square).

Apart from a few isolated cases, chemists were to be found in the main streets outlined above. Conversely, orthodox practitioners were more scattered. This was especially so in Portsea, where it will be noted that the majority of doctors were located away from the main commercial streets. There is also evidence of doctors clustering in Portsea, around St George's Square. Although the actual number was small, this is nonetheless potentially significant given that no other such clusters existed in either town. Moreover, trade directories for subsequent years reveal that the cluster grew steadily and had more than doubled in size to eight practitioners by 1844. While there could be any number of reasons for the development of this cluster, two in particular stand out.

Firstly, the Portsmouth and Portsea Dispensary and the South Hants Dispensary for Diseases of the Eye and Ear were both located in St George's Square and so could have been attracting practitioners to the vicinity.[22] It is interesting to note that two of the three doctors in the square, one of whom had been in residence prior to 1811, were listed as physicians. The third, a well-established surgeon in the town, had chosen to relocate here from North Street.[23] Sadly, the records of the dispensaries have not survived, but information pieced together from medical directories indicates that certainly one and possibly two of these doctors held honorary positions on their medical staffs. This evidence is consistent with the idea that a close association with these types of institutions was an important way for

such practitioners to gain wealthy clients.[24] As this case also illustrates, the notion of a 'close' association could have geographical connotations as well. Secondly, bearing in mind the extent of Portsmouth's overall spatial development at this time, the central position of St George's Square was undoubtedly important. As map 3.3 shows, a doctor practising here had easy access not only to Portsea itself but also to Portsmouth's other towns. To the south, St George's Road provided a quick and direct connection with Old Portsmouth. To the north, a short walk led to Edinburgh Road, Lion Gate, and the only exit from the fortifications to Landport and the more developed parts of Southsea.

Obviously, it would be inadvisable to draw any firm conclusions from a single set of maps. However, the 'high street' location of most chemists and the example provided by the doctors of St George's Square, indicates that some vicinities had characteristics that made them more attractive to certain types of healthcare providers than others. Within this, particular consideration also needs to be given to the role that age and status played in the location of orthodox practitioners. These themes are developed in the sections below and in subsequent chapters.

Period Two: 1844-1863

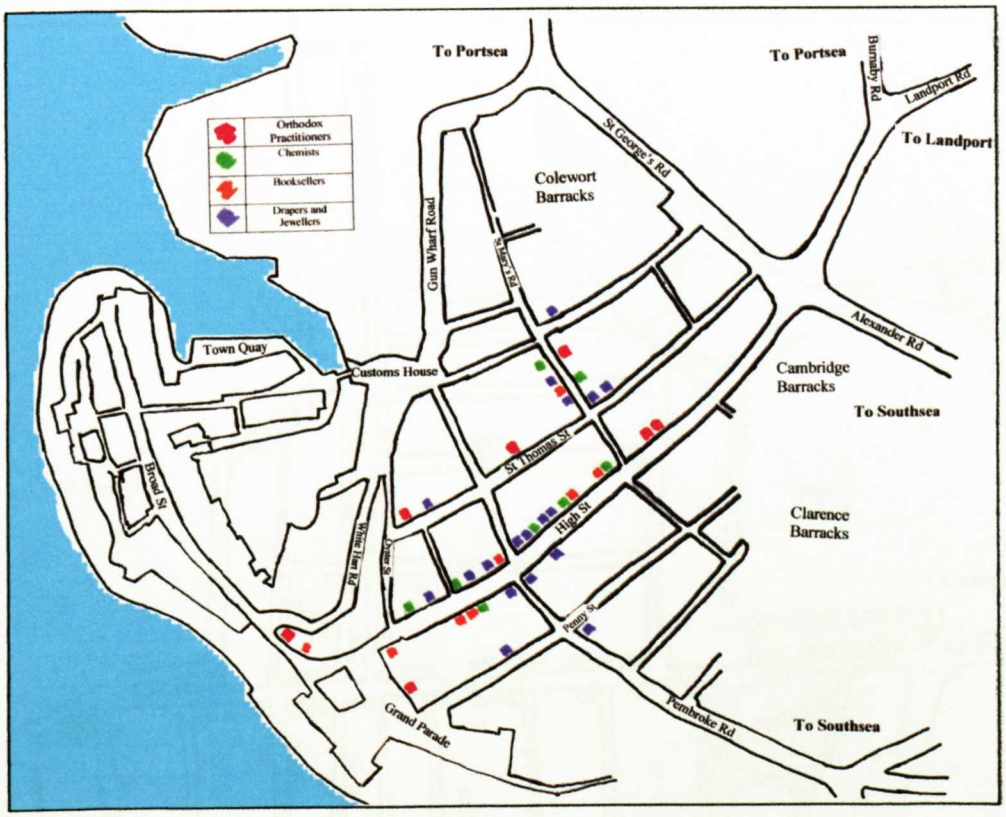
The advent of steam propulsion in naval vessels breathed new life into a weary Portsmouth. As was outlined in chapter two, the dockyard underwent a major extension to accommodate this change. As the facilities of the new steam basin came into use, so the numbers employed at the dockyard increased, rising from 2,455 in 1844 to stabilise at roughly 3,300 from 1856 onwards.[25] The Crimean War helped to maintain this return to prosperity. In scenes reminiscent of the Napoleonic era, Portsmouth was once again buzzing with activity. Specific events attracted literally thousands of visitors from all over the country. When the fleet left for the Baltic, every hotel, lodging house and even stable was reputedly full.[26] In the aftermath of the war there was no characteristic slump. Instead, the 1858 launch by the French of *La Gloire*, the world's first iron-clad battleship, effectively secured Portsmouth's fortunes for the foreseeable future. With fears growing in Whitehall concerning

France's intentions, the shipbuilding programme prompted by Crimea was given fresh impetus.[27] As our second period drew to a close, fresh plans were being made for another, even larger, extension to the dockyard.[28]

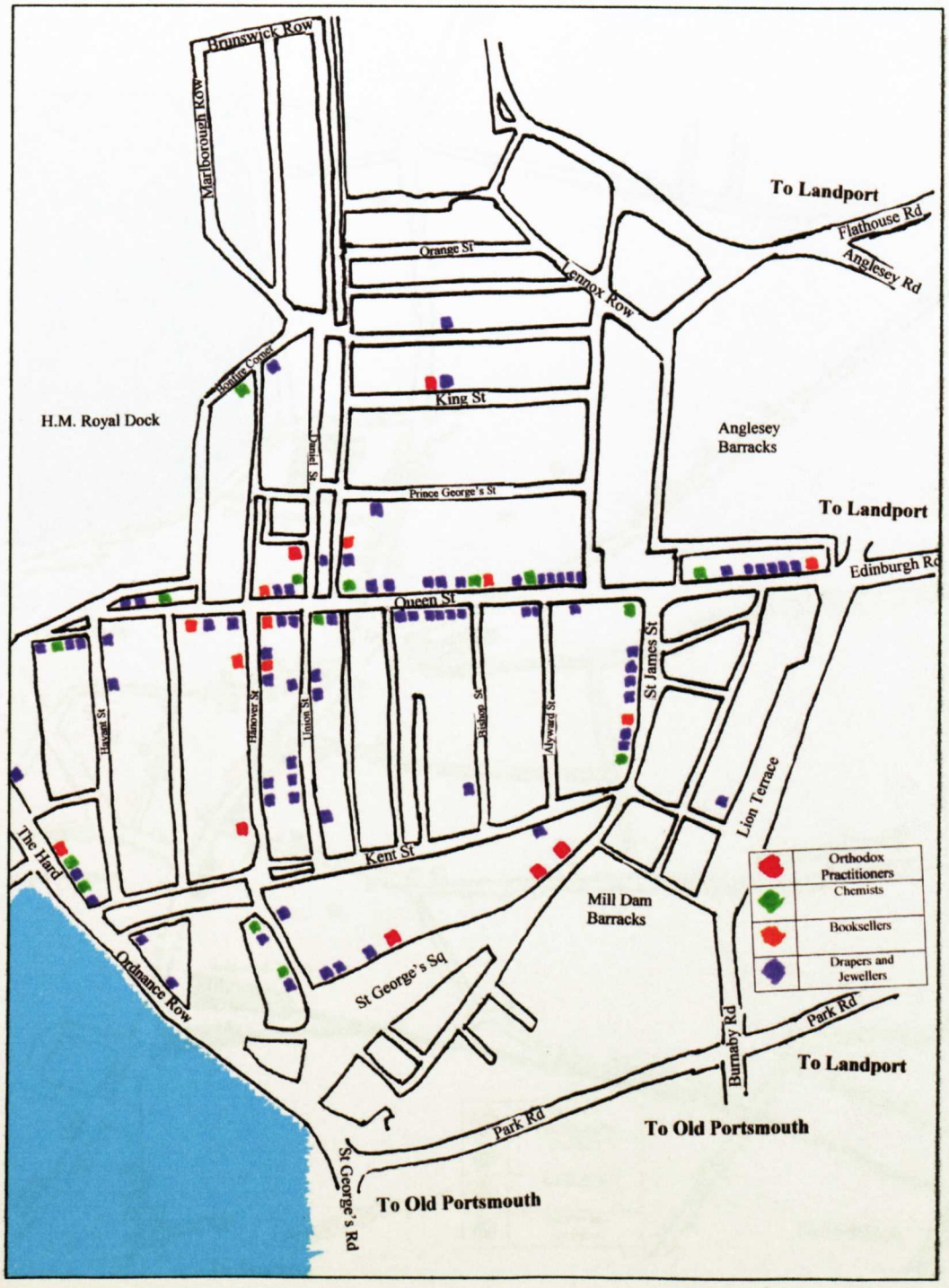
Maps 3.4 to 3.8 capture 1863, the very last year of the second period.[29] This date was chosen because it provides the best contrast to the previous set of maps and reflects the substantial urban expansion that had occurred since 1830. Although the population had grown across all four towns, far and away the biggest increases were experienced in Landport and Southsea. In the space of three decades their joint population had reached approximately 64,000, some 32,000 more than the combined populations of Old Portsmouth and Portsea.[30] This is reflected in the collective map of Portsea Island (3.4), which gives an indication of Portsmouth's spatial development to this point. As can be seen, a rail link to the mainland had been established by 1863. This had made Portsea Island much more accessible and, by the 1860s, was starting to make a direct contribution to Southsea's growing popularity as a holiday resort. Landport was also home to Portsea Island's first voluntary hospital, The Royal Portsmouth, Portsea and Gosport Hospital (hereafter – The Royal), which opened in 1849.[31] Maps 3.5 and 3.6 reveal that the main commercial areas in Old Portsmouth and Portsea were unchanged from 1830. In Landport (map 3.7), two such areas can be identified. The first and most important of which was at the intersection of Commercial Road, Union Road, Lake Road and Charlotte Street. The second was south of the station, around Russell Street and Landport Road, where Landport met the northern borders of 'labouring-class' Southsea. Southsea (map 3.8) on the other hand had just one main commercial area at this time, concentrated along Wish Lane (west of Elm Grove), with a second, smaller one developing in Palmerstone Road (east of Osbourne Road).

Map 3.4: Collective Map, Portsea Island 1863

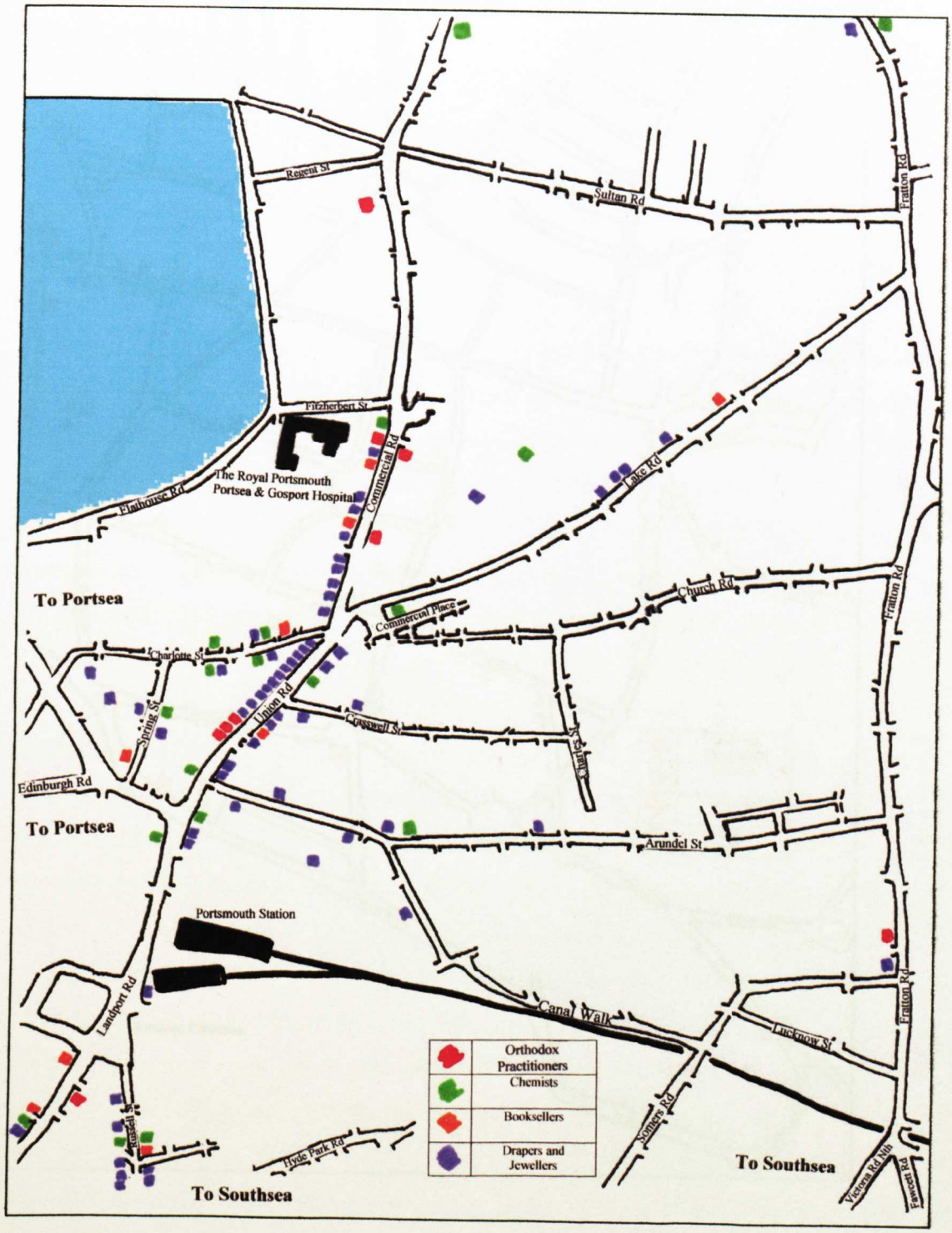
Map 3.5: Old Portsmouth 1863



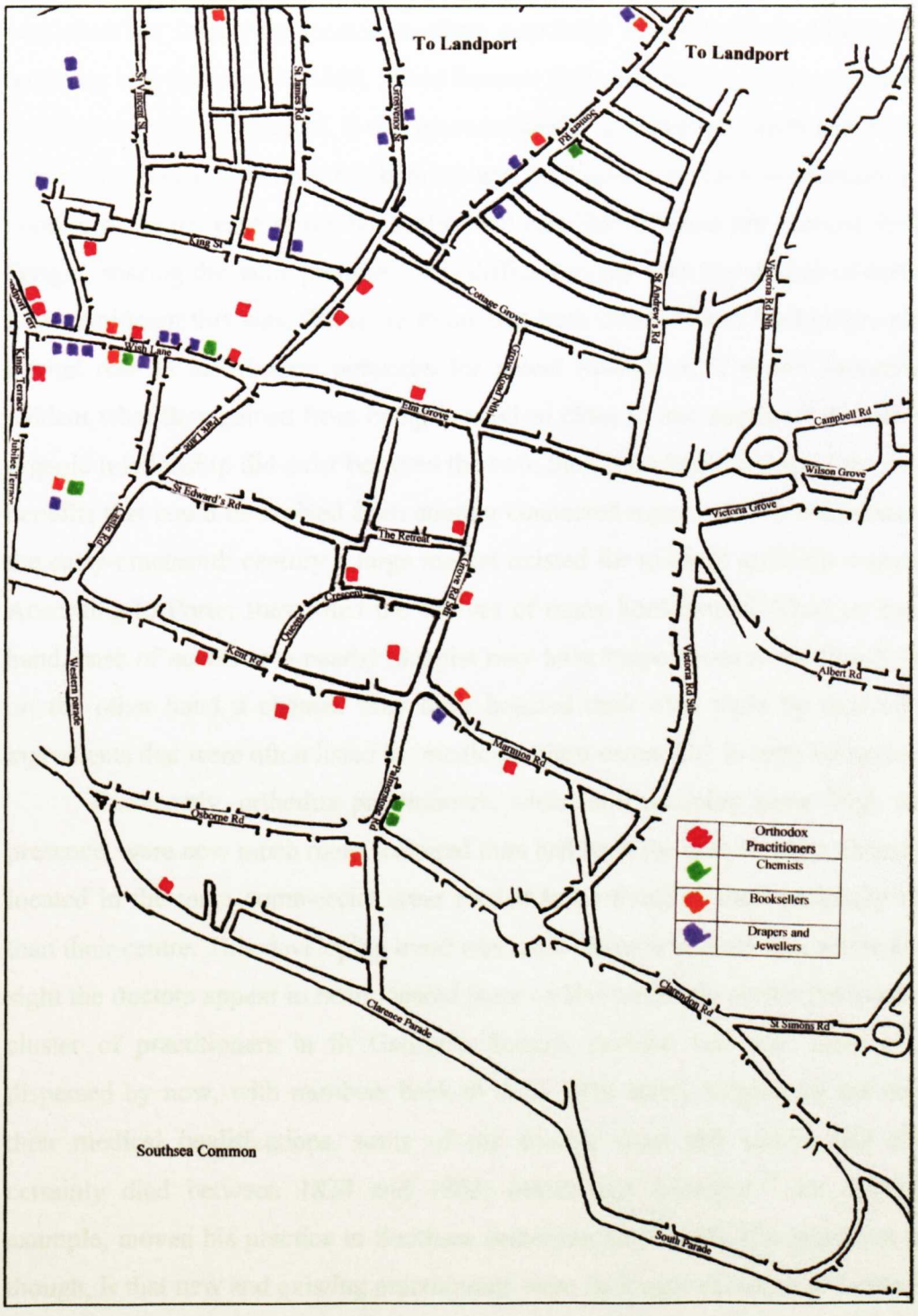
Map 3.6: Portsea 1863



Map 3.7: Landport 1863



Map 3.8: Southsea 1863



A review of these maps suggests that the key observations made of 1830 still held true in 1863. In all four towns, the majority of chemists were located in the

main commercial areas. Furthermore, there appeared to be a trend developing which saw chemists frequently located in close proximity to booksellers. Although this tendency was apparent in 1830, it had become quite marked by 1863, suggesting it to be more than coincidental. It was most noticeable in Old Portsmouth and Southsea where there were a number of chemists and booksellers actually neighbouring one another or, in the case of the bookseller William Harrison and the chemist William Wright, sharing the same premises. It is difficult to say with any degree of certainty how significant this was. While we know that both chemists and booksellers played a vital role in distribution networks for patent medicines, it is not immediately evident what they gained from being located so close to one another.[32] If indeed an organic relationship did exist between the two, then it probably reflected the mutual benefits that could be derived from another connected aspect of their businesses. By the early-nineteenth century a large market existed for medical self-help manuals.[33] According to Porter they filled the shelves of many bookshops.[34] Thus on the one hand, ease of access to a nearby chemist may have helped bookshops to sell them; on the other hand a chemist may have boosted their own trade by stocking the ingredients that were often listed as 'medicine-chest essentials' in such literature.

Conversely, orthodox practitioners, whilst still retaining some 'high street' presence, were now much more scattered than had been the case in 1830. Even those located in the main commercial areas tended to be found at their periphery rather than their centre. This developing trend was most obvious in Southsea, where at first sight the doctors appear to been located more or less randomly across the town. The cluster of practitioners in St George's Square, Portsea, had also more or less dispersed by now, with numbers back to their 1830 level. Judging by the date of their medical qualifications, some of the doctors from this cluster had almost certainly died between 1830 and 1863; others had relocated.[35] Dr Smith, for example, moved his practice to Southsea sometime after 1844. The important point though, is that new and existing practitioners were no longer choosing to locate in St George's Square. The reasons for this were the complete opposite of those which had originally attracted doctors to the vicinity. As a result of Portsmouth's spatial development, St George's Square was no longer geographically central by 1863. In

addition, both the Portsmouth and Portsea Dispensary and the South Hants Dispensary for Diseases of the Eye and Ear had gone, the former having been amalgamated with The Royal in 1849. Indeed, there is a close correlation between the decline of the cluster and the closure of the dispensaries, supporting the view that such establishments could exert a strong institutional pull.

Reference to the collective map (3.4) shows that orthodox practitioners were now clustering in Southsea (albeit fairly loosely), particularly in its southern half. Conversely, chemists seemed to favour the commercial areas in Old Portsmouth, Portsea and Landport. This prompts the question: what attracted doctors to Southsea and chemists to the other three towns? Or, asked from the opposite perspective: what dissuaded certain types of healthcare providers from establishing themselves in particular towns or vicinities within those towns? One way to think about this is in terms of 'push' and 'pull' factors. The doctors of St George's Square exemplify what is meant here. Initially, they were pulled towards the vicinity by its central position in relation to Portsmouth as a whole and by its proximity to the medical dispensaries. Latterly, Portsmouth's considerable spatial expansion effectively nullified this geographical advantage and pushed doctors away from The Square, as did the closure of the dispensaries. It is also self-evident from this example that, rather than being fixed, the 'push' and 'pull' factors operating in any given place were fluid and had a chronological dimension. Finally, map 3.4 very visibly demonstrates the uneven distribution of providers that had developed in Portsmouth by 1863. This raises a whole host of questions concerning the source and nature of demand for healthcare; accessibility to provision; and the relationship that existed between providers and consumers. These, and other such questions, are considered in more detail in the final section of this chapter. In the meantime, the distribution of provision is tracked across the remaining two periods of the nineteenth century.

Period Three: 1864-1881

The plans were finalised for the 'Great Extension' in 1864. Building work on this massive project commenced three years later and when it was finished in 1881, the

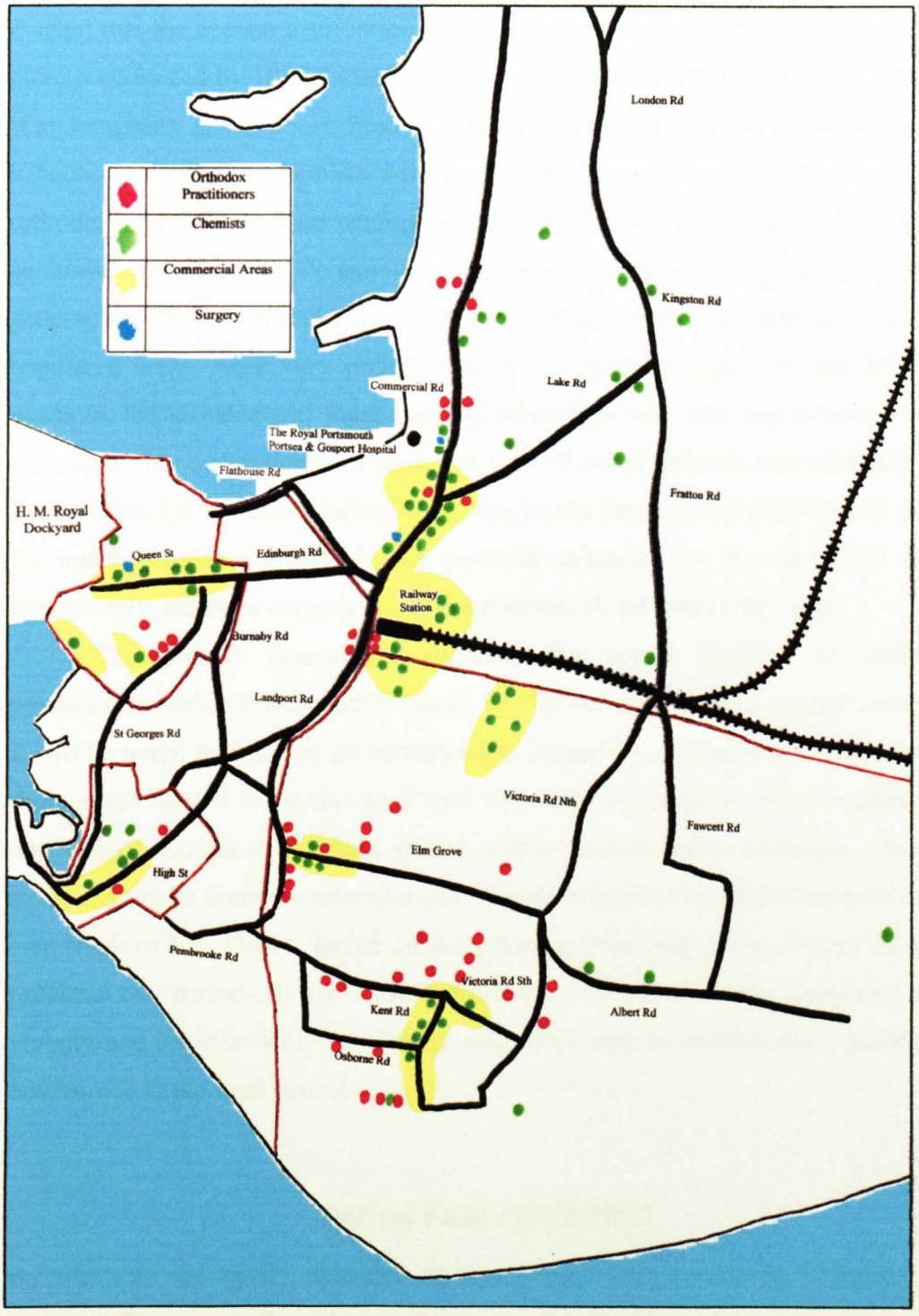
dockyard had altered beyond all recognition. Equipped to deal with the latest naval vessels, not only had this industrial complex grown significantly in size, but the numbers it employed had also correspondingly increased to 6,300.[36] Much of course had happened in the interim. Behind the scenes, trades that had previously been thought of as 'new', such as those associated with engineering and metal-working, had become an integral part of the dockyard's establishment. The closure of the Great Ropery in 1868 was symbolic of the bigger changes that were afoot in naval shipbuilding.[37] The launch of HMS *Devastation* in 1871 provided visible evidence that the Royal Navy's transition from wood and sail to iron and steam was now complete.[38]

Portsmouth's urban expansion also continued without pause. Amongst other things it brought about improvements to the port's communication infrastructure, in the form of tramways. One of these linked Southsea Pier to the railway station; a reflection of the town's now eminent position as a holiday destination for affluent Victorians.[39] There was also a notable expansion in charitable and state healthcare provision on the island. In 1866 a new wing was built at The Royal specially for the treatment of patients under the Contagious Diseases Acts. The construction costs of this were covered by the Admiralty.[40] In addition, at Milton (east of Southsea), Portsmouth's own lunatic asylum, a source of great civic pride, was opened by the Mayor in 1879.[41] The borough's population increased substantially as well. Between 1861 and 1881 census returns reveal a rise of almost 40,000, from 94,828 to 128,022.[42] Whereas before, growth had been experienced across the board, in this third period it was restricted mainly to Landport and, to a lesser degree, Southsea. In Portsea, the number of people living in the town actually started to decline in the late 1860s, a trend that continued for the rest of the century. The advent of the tramways was almost certainly a contributory factor, as they made the dockyard easily accessible from places outside of Portsea itself.[43] The story was similar in Old Portsmouth. Here the population peaked in 1871 at 11,169 only to be immediately followed by a steady drop. By 1881 it had fallen to 7,591.[44]

Only a collective map (3.9) is included for this period.[45] In the individual towns trends previously noted concerning the location of private healthcare

providers were unchanged: chemists remained largely town-centre based, while orthodox practitioners continued to move towards the periphery of commercial areas. The map relates to 1879: this year was chosen as it was the first in which a number of doctors were found to be practising out of both their own private residences as well as out of separate buildings, described as 'surgeries' in the trade directory. These have been plotted so that the significance of their geographical locations can be assessed. In addition, a number of new commercial areas appear on the map. These reflect Portsmouth's continued urban expansion since the end of period two.

Map 3.9: Collective Map, Portsea Island 1879



Two key observations can be made from map 3.9. Firstly, it is immediately evident that the uneven distribution of provision apparent in 1863 had become even more pronounced by 1879. Indeed, a very distinct north/south divide had developed. If an imaginary line is drawn from west to east across the top third of Southsea, then it becomes clear that chemists were gravitating to areas north of this line, while orthodox practitioners were tending to locate south of it. In essence, private sector healthcare provision in Portsmouth had become progressively segmented along geographical lines. An enduring consequence of this trend was that large, densely populated areas, were very poorly catered for by some types of providers. For example, the sizeable and predominately labouring-class area that extended north from Elm Grove (Southsea) up as far as Lake Road (Landport) had relatively few doctors in it. On a purely practical basis this would have created problems of access for many people; a situation only partially mitigated by the fact that, rather interestingly, the three surgeries mentioned earlier all fell within this area.

The second observation concerns the actual location of orthodox practitioners within Portsmouth's towns. In Old Portsmouth, Portsea and Landport, it will be noted that almost all doctors were located on arterial roads. Furthermore, these roads tended to be the ones with tramways on them. In some respects the domicile of doctors in Southsea shared similar characteristics. However, although many were to be found on arterial roads, a sizeable number remained scattered in the area south of Elm Grove. Based on the evidence from map 3.9 and those from the previous two periods, it can be concluded that, for private-sector providers, both vicinity and location within a vicinity were important considerations. Attention is now turned to the final period.

Period Four: 1882-1899

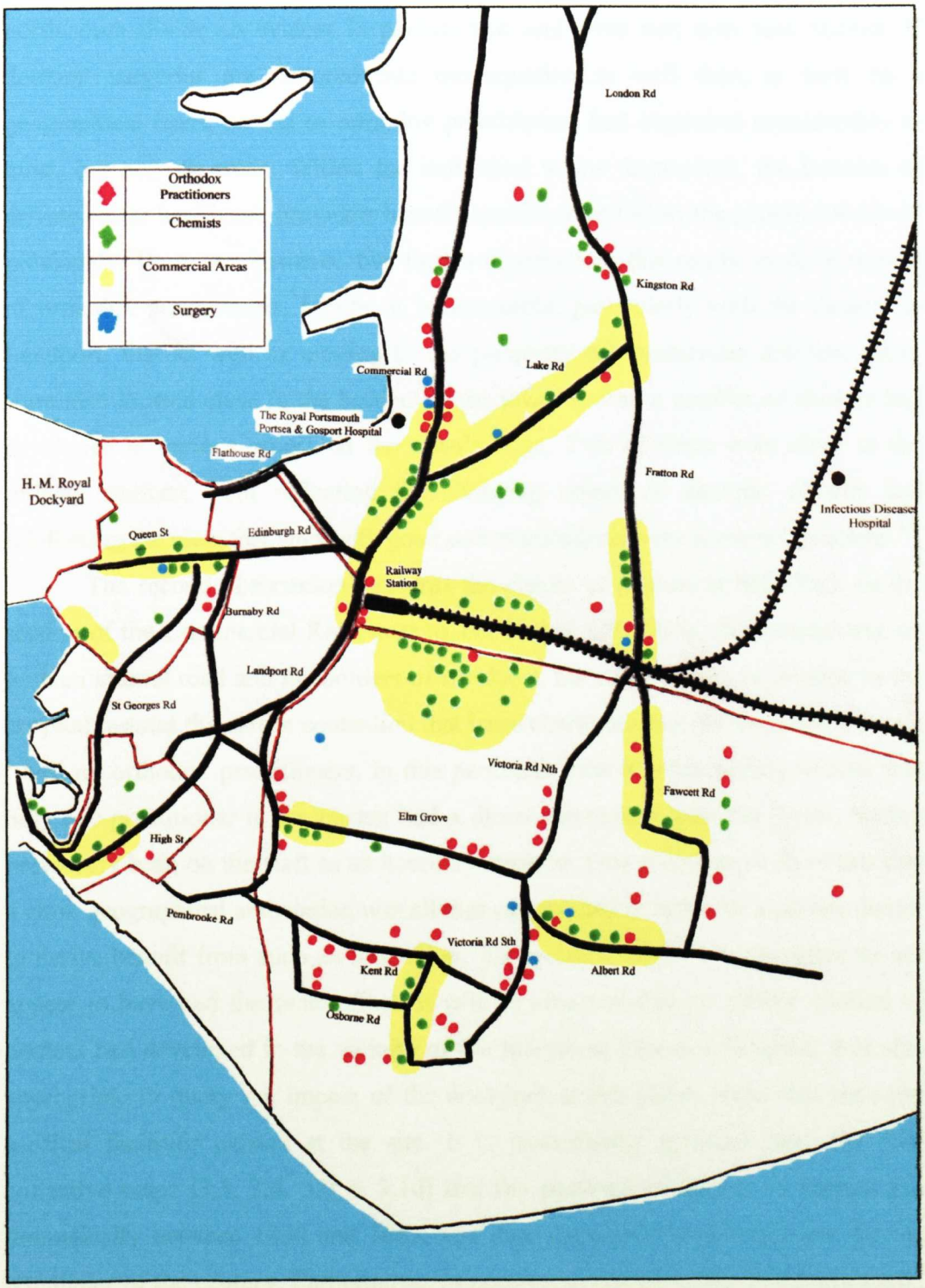
By the time the newly extended dockyard was fully functional, Germany had replaced France as the biggest threat to Great Britain. Contemporaries, and subsequently some historians, have suggested that the Kaiser's numerous visits to Portsmouth had a bearing on Germany's growing colonial ambitions. At the naval

review held in his honour in 1889, Wilhelm II was reputably so inspired by the sight of the fleet that he decided to realise a life-long dream, demanding 'ships of my own'.[46] Whether this was true or not, Portsmouth certainly derived benefit from the arms race that gathered pace during the fourth and final period of the nineteenth century. As the Admiralty sought to re-state the supremacy of the Royal Navy, the dockyard became involved in the construction of ever-larger ships, made possible by yet more advances in naval shipbuilding. These included improvements in the efficiency of steam engines, which reduced the space required on board ships for the storage of coal; and the introduction of steel which, being lighter than iron, provided economies in fuel consumption.[47] The resultant high levels of activity in the yard led to further increases in the workforce. By 1901 the establishment stood at 7,976.[48]

Portsmouth's spatial expansion was similarly unrelenting. By the turn of the century its urban sprawl had extended northwards as far as Stamshaw and North End, within touching distance of Port Creek and the mainland. A telephone exchange was established in 1885 which was connected with Southampton four years later. Both the rail and tram networks were also extended, improving further the internal and external links on Portsea Island.[49] As was to be expected, the population continued to grow as well, with the census for 1891 recording 159,278 people in the borough, a 24.4 per cent increase in the space of just a single decade.[50] There was also a noticeable expansion in state and charitable healthcare provision. The Infectious Diseases Hospital at Milton was completed in 1883. This was followed a year later by the opening of an Eye and Ear Infirmary in Old Portsmouth. Four new wards were added to The Royal in 1888, increasing the number of beds from 70 to 102. Finally, in 1898, St Mary's Infirmary was founded as a separate institution to the facilities that had previously existed within Portsea Island Union Workhouse.[51]

Map 3.10 depicts the situation on Portsea Island in 1896.[52] By selecting a year towards the end of the final period, the developments that had occurred since the last map (3.9 -1879) become more readily observable.

Map 3.10: Collective Map, Portsea Island 1896



Starting with the overall distribution of healthcare provision, it is apparent that the north/south divide so evident in periods two and three was now less distinct. If doctors' surgeries are factored into the equation as well then, at least on a geographical basis, access to orthodox practitioners had improved considerably in most, but not all, areas. Within the individual towns themselves, the location of private sector healthcare providers broadly continued to follow the patterns observed previously. There are, however, two further observations that can be made in respect of orthodox practitioners. Firstly, it is noticeable, particularly with the doctors in Landport, that as well as moving to the periphery of commercial districts, many were also located close to the borders of the town. Indeed a number of clusters had developed at various points on the town's edge. Two of these were close to the railway stations, both reflecting the changing nature of doctors' circuits and reinforcing the view that sites with good communications were favoured locations.[53]

The second observation concerns the cluster of doctors at Mile End, on the section of the Commercial Road near to The Royal. Obviously, this cluster was on both an arterial road and the borders of Landport, but its proximity in relation to the hospital restates the earlier contention that large charitable providers exerted a strong 'pull' on orthodox practitioners. In this particular case it is interesting to note that only one practitioner in the cluster had a direct connection with the Royal, having previously been on the staff as an honorary surgeon. One might argue from this that a close geographical association was all that was needed in order for a private doctor to derive benefit from such an institution. Conversely, large state providers do not appear to have had the same effect. It will be observed that no similar clusters of doctors had developed in the vicinity of the Infectious Diseases Hospital. It is also appropriate to query the impact of the dockyard at this point, given that state-run medical facilities existed at the site. It is immediately apparent from the four collective maps (3.3, 3.4, 3.9 & 3.10) that the presence of doctors in Portsea fell dramatically between 1830 and 1863, and then remained consistently low for the remainder of the century. Furthermore, in contrast to neighbouring Old Portsmouth, this decline set in before the contraction in the town's population. It does not of course follow, that the dockyard was the cause. However, one possible reading of

the geographical evidence is that unlike the other state providers, which merely exerted no 'pull' on orthodox practitioners, the dockyard actually 'pushed' doctors away from Portsea. This contention is considered more fully in chapter four, when the chronological development of the private sector is analysed in detail.

3.2: Explaining the Trends

Two core trends emerged from maps 3.1 – 3.10. The first was that private healthcare providers favoured particular locations. For chemists it was the 'high street', in amongst the other retailers who together formed the main commercial areas of each town. For orthodox practitioners, it was increasingly the periphery of these areas and the borders of the four towns, with preferred locations being on arterial roads and/or in close proximity to large charitable healthcare providers. The second trend was that the distribution of private-healthcare provision developed unevenly across Portsmouth. For the greater part of the century a distinct north/south divide existed, with chemists gravitating to the north and orthodox practitioners to the south. How then can these trends be explained? What do they tell us about the relationship between healthcare providers and consumers? And to extent do they support the medical market hypothesis?

Chemists

The most plausible explanation for the continued town centre presence of chemists was that they were businesses that targeted the public in general.[54] With the wide range of healthcare products that they sold, and the lure of free medical advice, everyone was a potential customer.[55] It thus made sense for chemists to seek a spot in one of the main commercial areas. In addition to the prospect of passing trade, a key benefit of such a location was that consumers knew where to find you. A resident of Landport wanting to 'top up' the family medicine chest for example, could have reasonably expected to find what they were looking for by taking a trip to the shops in and around the Commercial Road. Thus chemists related to demand by placing themselves centrally, right within the marketplace, where they were

easily accessible to all. As such, it is reasonable to conclude that the demand they experienced emanated from most, if not all, sections of the population.[56] This in turn suggests that a fairly simple market relationship existed between chemists and their customers. On the one hand 'high street' locations were beneficial and undoubtedly essential to a chemist's economic well-being, yet on the other hand such locations also made it easier for consumers to 'shop around'.

The location of chemists in Portsmouth therefore generally supports the notion that these providers operated in a (medical) market. By making a number of assumptions about demand within this market it is possible to start explaining why chemists gravitated to the northern half of Portsmouth. If it is assumed that demand, while not necessarily constant or equal across the population, generally increased when the population grew, then over a period of time one would expect to see some crude connection between the number of chemists and the size of the population. In other words as the population increased, so too would demand, ultimately leading to an increase in the number of suppliers as the market adjusted. Of course the reverse would have applied when the population fell. The issue of market operation is covered in detail in chapters four and six. However, if for the moment the validity of this assertion is accepted, it can be posited that chemists gravitated towards densely-populated Landport and the labouring class half of Southsea because this was where the bulk of people in Portsmouth lived and hence where demand was greatest.

Orthodox Practitioners

No such simple explanations can be offered for the geographical location and distribution of Portsmouth's orthodox practitioners. In many ways the fact that they tended to be found outside of the main commercial areas comes as no surprise. As providers, doctors were intrinsically different to chemists. Although many sick people visited doctors in order to receive treatment, a proportion of a doctor's work involved attending patients in their own homes. Home visits were something that the middle and upper classes in particular expected of their doctors.[57] Thus, in addition to the potential of passing trade, one obvious reason for doctors favouring locations on or near arterial roads was that from a practical point of view it made visiting and

being visited by patients quicker and easier. The geographical evidence suggests that for most doctors it was Portsmouth's internal communications that were key. But the presence of practitioners in close proximity to the railway stations suggests that, for some at least, access to areas beyond Portsea Island was potentially important as well. This was certainly likely to be the case for the well-established physician who, more than any other practitioner, could be expected to draw his clients from a wider catchment area.[58] Details of the doctors near to Portsmouth's stations are unfortunately sketchy. It is however notable that in 1896 both practitioners near the main railway station were physicians and one, a Doctor Vardy, had received his LRCP thirty-six years previously.

Evidence drawn from the memoirs of Doctor Doyle, who set up a private practice in Southsea in 1882, illustrates just how important the issue of good access was.[59] Writing about his experiences in 1895, some five years after leaving Portsmouth for Harley Street, he made the following remarks concerning his initial choice of location:

> I found that there was one villa to let, which undoubtedly was far the most suitable for my purpose... It stood with the well-to-do quarter upon the one side, and the poorer upon the other. Finally, it was almost at the intersection of four roads, one of which was the main artery of the town. Altogether, if I had ordered a house for my purpose I could hardly have got anything better.[60]

Doyle's comments also give important clues concerning the steady development of clusters around the borders of Portsmouth's four towns. It is clear from the excerpt that locations sandwiched between different types of districts were particularly prized, especially perhaps by practitioners in the early stages of their careers.[61] The reason for this was straightforward: geographically, such locations placed the practitioner in the middle of two potential sources of demand. The doctors clustered at the southern end of the Fratton Road for example (see Map 3.10), could look to both poorer Landport and richer Southsea for their clients. Doyle certainly benefited in this way from his location on Elm Grove, which marked the northerly extent of well-to-do Southsea. Commenting on what sustained his practice to begin with, he fondly recalled that the bulk of his early patients were:

> Of the poorest class, some of them desirous of novelty, some disgruntled with their own doctors, the greater part owing bills and ashamed to face their creditor, came to

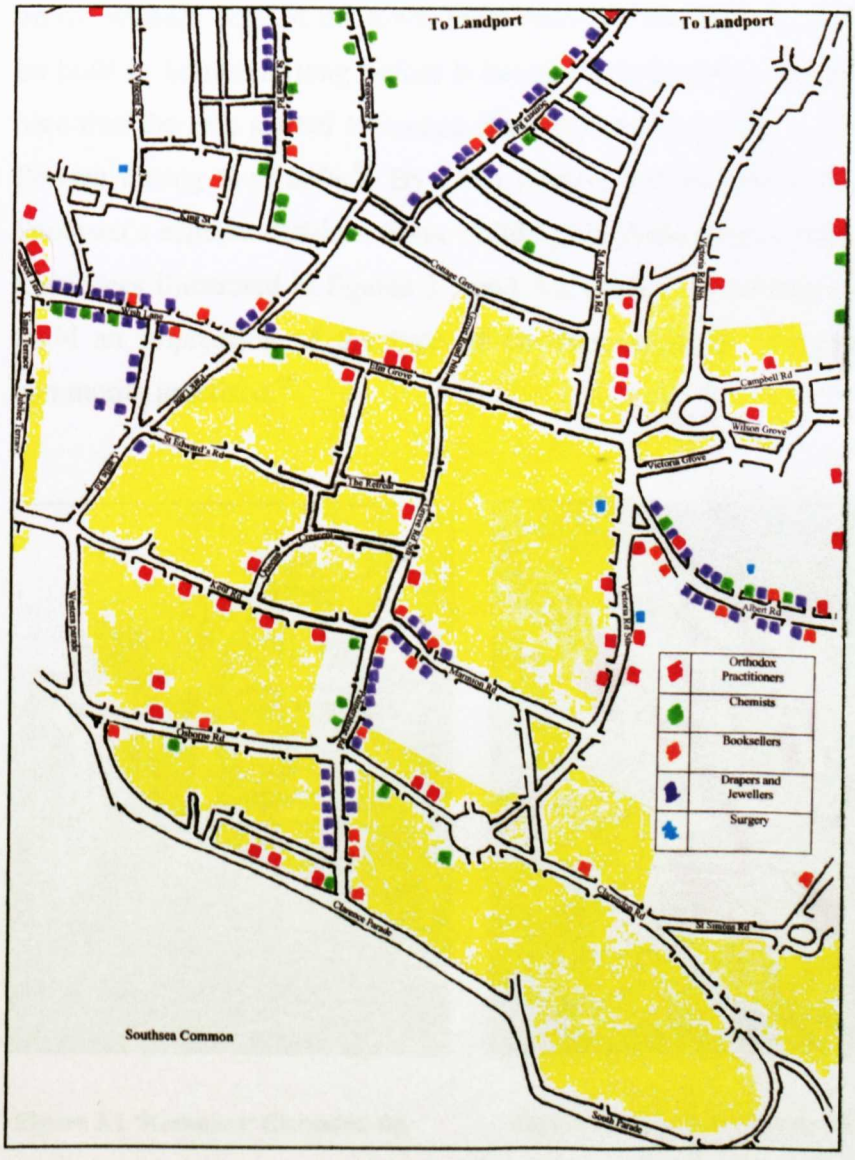
> consult me and consume a bottle of my medicine. I could pay for my food by the drugs I sold. It was as well, for I had no other way of paying for it.[62]

However the above does not necessarily explain why the distribution of orthodox practitioners developed so unevenly across Portsmouth. If it is assumed that, like Doyle, most doctors acted with a degree of rationality when deciding where to practise, then the existence of a north/south divide in their distribution suggests that demand for their services varied from place to place. Ironically, the geography indicates that instead of the highest demand coming from the areas with the poorest health, the complete opposite happened. In every major outbreak of disease during the nineteenth century, the source can be traced to those parts of Portsmouth which, proportionately, had the least numbers of doctors. For example, it was in the slums of Landport that the first fatal cholera case was recorded in 1849.[63] Similarly, during the diphtheria epidemic of 1881-2, the highest concentration of cases was again in Landport. The extent of the mismatch between need and demand was revealed unwittingly in comments made by Doctor Sykes, who was the Medical Officer of Health at the time of the diphtheria outbreak. In south Landport, which had few doctors, Sykes estimated the population to be 58,011 and calculated the death-rate per thousand to be 20.79. Conversely, in Southsea, where doctors were much more numerous, he estimated the population to be 9,909 and the death-rate to be 14.73 per thousand.[64] As a closer examination of Southsea shows, doctors tended to gravitate to areas not with the poorest health but with the greatest wealth. Even the doctors who held positions as medical officers with the poor law union (including those contracted to treat patients in the union workhouse) followed the same broad pattern in the location of their private practices. If viewed in market terms then this geographical relationship can be interpreted as evidence that the healthcare provided by doctors, like any other commodity, attracted the highest price that the market could bear.

Map 3.11 below reveals that there was a remarkable correlation between the location of Southsea's doctors and the more affluent parts of the town (highlighted in yellow).[65] Additionally, it is worth noting that many of these areas also contained

the guest houses and hotels that had sprung up in response to the demands of Southsea's growing tourist industry.[66]

Map 3.11: Southsea 1896



The high numbers of doctors concentrated in these areas was in stark contrast to the provision that was to be found elsewhere in Portsmouth, including Southsea's own poorer districts. In 1896 there were only a handful of orthodox practitioners operating in the labouring-class residential area which extended north from Elm

Grove up as far as south Landport. This trend towards locating in the wealthier districts appears to have started almost as soon as 'middle-class' Southsea began to expand. Trade directories reveal that doctors had a presence in the vicinity of Hampshire Terrace, Kings Terrace and Landport Terrace as early as 1844.[67] Located on the western edge of the town, these were the first areas of up-market housing to be built in Southsea, long before it became a fashionable holiday resort. It was to here that the rich started to escape from the overcrowding in Old Portsmouth and Portsea during the 1830s.[68] By 1896 doctors had effectively laid siege to all of Southsea's affluent districts. Some buildings in these areas, such as the two doctors' residences illustrated in figures 3.1 and 3.2, are still in existence today and help to build an impression of the type of environs in which the doctors of Southsea commonly practised.[69]

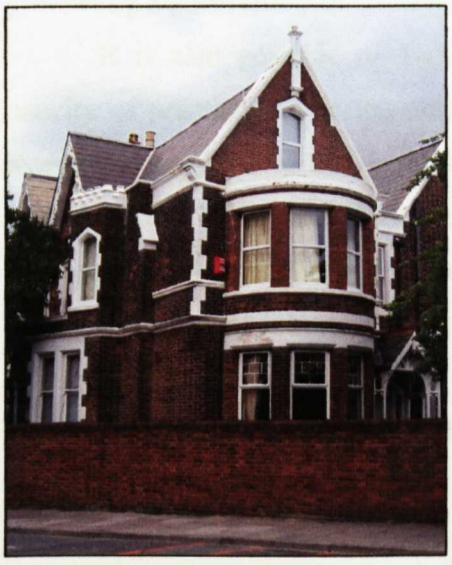


Figure 3.1 'Haslemere' Clarendon Rd.

George Sparrow MD Practised Here 1896

Figure 3.2 Clarence Parade. Henry Rundle

FRCS Practised Here 1896

Quite obviously there was a substantial capital outlay involved in buying or renting and then appropriately equipping premises for practice in these areas. Therefore it seems unlikely that doctors would have taken on such a financial burden

unless they could be sure that the prospects were good for building and sustaining a profitable private practice. Thus one has to conclude that they were, to a degree, acting as economic agents and responding to a demand for their services. The distribution of doctors in the town suggests that this demand came principally from two groups. Firstly, middle and upper-class residents and, secondly, the large and generally wealthy transient population that visited the resort during the summer season. Certainly at this level a medical market appears to have been operating. In arriving at this conclusion, it is acknowledged that certain assumptions have been made about demand for orthodox practitioners. Research by other scholars has shown for example that further down the social scale traditional responses to illness were often more resilient, as were higher levels of suspicion towards doctors.[70] However, even allowing for the effect of such factors on demand, the correlation between doctors and affluent districts indicates that the principle reason for them gravitating southwards was economic.

It is also possible to make a similar economic argument to explain the paucity of practitioners in the northern half of Portsmouth. After all, there is no reason to suspect that the doctors in Southsea were in any way unique in their behaviour. We know from the historiography that going to the doctor was generally more expensive than visiting a chemist.[71] In Portsmouth, the geography suggests that the economic entry point to this part of the market was high enough to make routine access particularly difficult for the labouring classes. This group, by far the largest numerically, found themselves in the awkward position of not being poor enough to see a doctor via the poor law, but not rich enough to easily employ one privately themselves. Consequently, it can be argued that areas with high labouring-class populations only created sufficient demand to sustain a relatively small number of orthodox practitioners. In simple terms, there were fewer doctors located in the northern parts of Portsmouth because there were fewer people here who could afford them on a regular basis. The chronological development of healthcare depicted on maps 3.1 – 3.10, indicates that it was not until towards the end of the century that this state of affairs started to change. Although requiring investigation, at this point one might conclude that while middle-class Southsea continued to expand, there was

no incentive for doctors to lower their prices and thus open up their part of the market to the population in general.

At one level, this again supports the existence of a medical market by indicating a market relationship existed between provider and consumer. Yet, while this might have reflected the situation between middle and upper-class patients and their doctors, it is much more difficult to sustain this characterisation of the relationship lower down the social scale. For the labouring classes, privately employing the services of a doctor would have probably been the last resort, leaving little time to 'shop around'. As a result, their ability to act as rational and active consumers was severely circumscribed. This situation was then further compounded by the general lack of practitioner availability in Portsmouth's labouring-class districts. The extent to which access, choice and consumer power was restricted for this group when they acted independently is certainly implied by Doyle. It will be recalled that he stated that the majority of his early patients were people who were too 'ashamed to face their creditor'.[72]

Notwithstanding the problems that the less affluent faced engaging with this part of the market, the fact remains that the labouring classes still regularly visited doctors. What is crucial though, is that the various means by which they secured this healthcare (aside from employing a doctor directly) either partially or wholly disenfranchised them as consumers. Membership of a friendly society or sick club was one important way. Many of these operated in Portsmouth during the nineteenth century and, although no meaningful membership data could be found, the presence of large affiliated societies such as the Ancient Order of Foresters indicates their significance locally.[73] Digby argues that the overcrowded nature of the medical market put friendly societies in a strong bargaining position. It allowed them to negotiate favourable financial terms, as well as exercising a degree of lay control over the doctors that they employed.[74] However, membership only indirectly connected the individual to the market via the organisation's governing officials. Thus, while friendly societies were a route to the healthcare provided by doctors, individual members still had very little control over the type and quality of care they received or who provided it. As Parry and Parry point out, the chief concerns of

those in charge of friendly societies was to recruit more members and to hire doctors as cheaply as they could. With little appreciation of professional standards, this created a situation whereby patients were imposed on the societies' medical servants in such numbers that an efficient and satisfactory level of treatment was often impossible.[75]

State and charitable providers were the two other main routes available. Although presenting their patients with few choices concerning their treatment, these providers nonetheless gave the labouring classes a means of accessing doctors that circumvented the medical market altogether. Whether the sick person received attention from the parish surgeon for the poor, or from a physician at The Royal, at the point of delivery no market relationship existed between patient and practitioner. It is at this point that the simple 'market' or 'economic' argument for the development of healthcare begins to unravel. As we saw earlier in the chapter, both the state and charitable sector expanded considerably during the period. Clearly then, their impact on the development of healthcare in Portsmouth needs to be understood. One might note for example, that the areas with the fewest doctors housed a high proportion of dockworkers, all of whom had limited entitlement to free state healthcare.[76] Hence at this stage it would be unwise to discount the possibility that state and/or charitable provision was sufficiently comprehensive in some areas, or for some groups, to prevent demand from reaching the market. In effect, these sectors had the potential to crowd out the market and, by stifling growth at the bottom end, ultimately determine its boundaries.

3.3: Conclusion

The geography of healthcare provision in Portsmouth points to the existence of a medical market. However, the picture that emerges is of a market far more complex than the current historiography allows. Although there are obviously limitations with an analysis based predominantly on geography, we can still draw a number of tentative conclusions about this market. Even at a very local level there could be considerable variances in not only market demand but also the type and amount of

provision that was available. At the very least, we should be discussing a market that was highly segmented in nature, both economically and geographically.

Chemists were important players in the market. These providers bore all the hallmarks of mass-market businesses. Their distribution across Portsmouth made them geographically accessible to all, while their continued town-centre presence indicates a simple economic relationship with consumers. Numerically, more chemists were found in the northern, densely-populated half of Portsmouth. This is consistent with the idea that the economic entry point to this part of the market was low enough to permit regular participation by most sections of the population. The situation with orthodox practitioners was very different. Their uneven distribution across Portsmouth gives a strong indication that both economically and geographically this part of the market was harder for the labouring classes to routinely access. It also queries the extent to which this group was able to behave as active consumers when they did. This contention is at odds with the existing historiography where it is generally asserted (or assumed) that the labouring classes could and did engage fully with the market from the middle of the nineteenth century onwards.

It is clear from the geography that Southsea had an important bearing on the development of Portsmouth's medical market. From the 1860s onwards it is evident that the town's expanding middle-class population and growing importance as a holiday resort was creating sufficient demand to sustain many doctors in practice. One potential outcome of this was that practitioners were able to maintain their prices at a level which continued to restrict access. The effect that this had on Portsmouth's state and charitable sectors is not obvious from the geography alone. What is clear though is that both expanded considerably during the century and, as a result, increasing amounts of healthcare were provided outside of the medical market. The important point about this is that, contrary to the secondary literature, it suggests that the medical market itself could be constrained and had definite boundaries. If these conclusions are borne out by further analysis then the implications for the medical market hypothesis are significant. In effect it would call into question the very notion of economics being the singular most important driver

behind the development of healthcare in nineteenth-century Portsmouth. On the one hand, it could be that state and charitable provision expanded to fill the gap left by a particularly buoyant medical market, in which supply struggled to meet demand. On the other hand, these sectors may have expanded because the level and/or nature of local healthcare needs were such that they could never be adequately resolved by relying on market forces alone.

It also needs to be acknowledged at this point that many other factors, hidden from the geography of provision, had the potential to shape Portsmouth's medical market and affect its operation. Medicine purchased by post and self-dosing in general; the prevalence of itinerate practitioners (in Portsmouth's case this might include naval and military surgeons) undercutting the local market; and patients who migrated either into or out of the area in order to seek medical aid, are just a few of the market imperfections that require consideration. These, and the other issues raised by this discussion are explored in more depth in the chapters that follow.

[1] Examples include: H. Marland, *Medicine and Society in Wakefield and Huddersfield: 1780-1870* (Cambridge: Cambridge University Press, 1987); H. Marland, 'The Medical Activities of Mid-Nineteenth-Century Chemists and Druggists, With Special Reference to Wakefield and Huddersfield', *Medical History*, 31 (1987), 415-439; S. King and A Weaver, 'Lives in Many Hands: The Medical Landscape in Lancashire, 1700-1821', *Medical History*, 44 (2000), 173-200; S. King, *A Fylde Country Practice: Medicine and Society in Lancashire, circa 1760-1840* (Lancaster: Centre for North-West Studies, 2001); M. Brown, 'From the Doctors' Club to the Medical Society: Medicine, Gentility and Social Space in York, 1780-1840' in *Eighteenth-Century York: Culture, Space and Society*, ed. by M. Hallett and J. Rendall (York: Borthwick Publications, 2003), pp. 59-69.

[2] P. S. Brown, 'The Providers of Medical Treatment in Mid-Nineteenth-Century Bristol', *Medical History*, 24 (1980), 297-314; P. S. Brown, 'Herbalists and Medical Botanists in Mid-Nineteenth-Century Britain With Special Reference to Bristol', *Medical History*, 26 (1982), 405-20.

[3] Davies' recent work analysing census returns has begun to reveal some interesting regional and local patterns in the distribution of female practitioners. See: O Davies, 'Female Healers in Nineteenth-Century England' in *Women's Work in Industrial England*, ed. by N. Goose (Hatfield: Local Population Studies, 2007), pp. 228-249.

[4] Although the field of medical geography is well-established, the mapping of healthcare providers in these centuries has so far been tackled in an ad hoc manner. See for example: C. Philo, "Fit Localities for an Asylum": The Historical Geography of the Nineteenth-Century "mad-Business" in England as Viewed Through the Pages of the *Asylum Journal*', *Journal of Historical Geography*, 13 (1987), 398-415; P. Laxton, 'Fighting For Public Health: Dr Duncan and His Adversaries, 1847-1863', in *Body and City: Histories of Urban Public Health*, ed. by S. Sheard and H. Power (Aldershot: Ashgate, 2000), pp. 59-88. Considerably more research has been done on the geography of health and disease. For examples relating to England see: M. J. Dobson, *Contours of Death and Disease in Early Modern England*, Cambridge Studies in Population, Economy and Society in Past Time, 29 (Cambridge: Cambridge University Press, 1997); A. Wear, 'Making Sense of Health and the Environment in Early Modern England', in *Medicine in Society: Historical Essays*, ed. by A. Wear (Cambridge: Cambridge University Press, 1992), pp. 119-147. The field more generally is discussed in: *Medical Geography in Historical Perspective*, ed. by N. A. Rupke, *Medical History*, Supplement No. 20, 2000.

[5] A. Digby, *Making a Medical Living: Doctors and Patients in the English Market For Medicine, 1720-1911* (Cambridge: Cambridge University Press, 1994), pp. 11-24. Loudon has also provided a detailed snapshot of the numbers of orthodox practitioners and students for a range of English counties using census data for 1841: I. Loudon, *Medical Care and the General Practitioner, 1750-1850* (Oxford: Clarendon, 1986), appendix IV.

[6] Both Lane and Loudon have shown that provincial doctors' practices could encompass very substantial geographical areas. It was not uncommon in the eighteenth and nineteenth centuries for a rural practitioner's daily circuit to exceed 20-30 miles, all of which was covered on horseback. See: J. Lane, *The Making of the English Patient: A Guide to Sources For the Social History of Medicine* (Stroud: Sutton Publishing, 2000), pp. 97-110; Loudon, *Medical Care and the General Practitioner*, pp. 114-125. See also: I. Loudon, 'Doctors and Their Transport, 1750-1914', *Medical History*, 45 (2001), 185-206.

[7] For examples see: A. Alexander, G. Shaw and D. Hodson, 'Regional Variations in the Development of Multiple Retailing in England, 1890-1939', in *A Nation of Shopkeepers: Five Centuries of British Retailing*, ed. by J. Benson and L. Ugolini (London: Tauris, 2003), pp. 127-154; Hoh-cheung & L. H. Mui, *Shops and Shopkeeping in Eighteenth Century England* (London: Routledge, 1989); J. Stobart, 'City Centre Retailing in Late Nineteenth and Early Twentieth-Century Stoke-On-Trent: Structures and Processes', in *A Nation of Shopkeepers: Five Centuries of British Retailing*, ed. by J. Benson and L. Ugolini (London: Tauris, 2003), pp. 155-178. Such approaches have also been used by urban

historians, a recent example being: F. Nevola, *Siena: Constructing the Renaissance City* (New Haven: Yale University Press, 2007).

[8] The use trade directories in local studies has a long history, where they have been employed for a range of purposes: D. Page, 'Commercial Directories and Market Towns', *The Local Historian*, 11 (1974), 85-88; G. Timmins, 'Measuring Industrial Growth From Trade Directories', *The Local Historian*, 13 (1979), 349-352; P. Wilde, 'The Use of Business Directories in Comparing the Industrial Structure of Towns: An Example From the South-West Pennines', *The Local Historian*, 12 (1976), 152-156. For an up-to-date critique of trade directories as sources see: 'History Notes', Historical Directories, A University of Leicester Project, <http://www.historicaldirectories.org/hd/historynotes.asp> [accessed 27 May 2008].

[9] For example, they do not pick up the existence of mutually beneficial commercial relationships between providers. These almost certainly existed between some practitioners and chemists, given that the latter often made-up and dispensed doctors' prescriptions: Marland, 'The Medical Activities', p. 432. Similarly trade directories do not capture itinerant traders who sold medicines: King, *A Fylde Country Practice*, p. 43. For further discussion regarding itinerant traders and local medical supply networks more generally see: S. King, 'Accessing Drugs in the Eighteenth-Century Regions' in *From Physick to Pharmacology: Five Hundred Years of British Drug Retailing*, ed. by L. H. Curth (Aldershot: Ashgate, 2006), pp. 49-78, (pp. 64-69).

[10] R. Porter, *Quacks, Fakers & Charlatans in English Medicine* (Stroud: Tempus Publishing, 2001), pp.64-65.

[11] Davies, 'Female Healers', p. 228. Like Davies, Fissell has also shown that women healers were an important component of the private sector: M. E. Fissell, *Patients, Power, and the Poor in Eighteenth-Century Bristol* (Cambridge: Cambridge University Press, 1991), pp. 63-68.

[12] Davies, 'Female Healers', p. 237.

[13] King, *A Fylde Country Practice*, pp. 42-43.

[14] It was common in provincial hospitals for doctors holding full-time posts, even at senior registrar level, to be forbidden from engaging in private practice: N. Parry and J. Parry, *The Rise of the Medical Profession: A Study of Collective Social Mobility* (London: Croom Helm, 1976), p. 140.

[15] An alternative way of counting, using trade directories and census returns, was employed by Marland in her study of Wakefield and Huddersfield. The degree of variance she found between the number of chemists' shops and the number of chemists was very small indeed, mirroring the results produced by the method used in this thesis, see: Marland, 'The Medical Activities', p. 419.

[16] N. Raven, 'Trade Directories and Business Size: Evidence From the Small Towns of North Essex, 1851', *The Local Historian*, 31 (2001), 83-95.

[17] M. Lewis, *The Navy in Transition: A Social History 1814-1864* (London: Hodder and Stoughton, 1965), p. 66.

[18] R. C. Riley, 'The Industries of Portsmouth in the Nineteenth Century', *The Portsmouth Papers*, 25 (1976), 3-22 (p. 7).

[19] *The Spirit of Portsmouth: A History*, ed. by J. Webb and others (Chichester: Philimore, 1997), p. 28.

[20] R. C. Riley, 'The Evolution of the Docks and Industrial Buildings in Portsmouth Royal Dockyard 1698-1914', *Portsmouth Papers*, 44 (1985), 3-31, (p. 15).

[21] Maps were constructed using data extracted from: *Pigot & Co's National Commercial Directory of Portsmouth*, 1830.

[22] M. Gange, *The Hospitals of Portsmouth: Past and Present* (Southampton: Ensign, 1988), pp. 2-3.

[23] These doctors have been traced by using an earlier trade directory: *Holden's Directory*, 1811.

[24] Loudon suggests that the presence of such institutions was often a deciding factor in a doctor's choice of where to settle: Loudon, *Medical Care and the General Practitioner*, p. 253.

[25] Navy Estimates were the principle documents used to obtain workforce numbers. See: PRO, ADM 181, Navy Board and Admiralty: Navy Estimates.

[26] M. J. Hoad and A. Temple Patterson, 'Portsmouth and the Crimean War', *The Portsmouth Papers*, 19 (1973), 3-22 (pp. 5-8).

[27] D. Evans, *Building the Steam Navy: Dockyards, Technology and the Creation of the Victorian Battle Fleet* (London: Conway Maritime Press, 2004), p. 9.

[28] R. Riley, *Portsmouth: Ships, Dockyard and Town* (Stroud: Tempus, 2005), p. 38.

[29] Maps were constructed using data extracted from: *Simpson's Directory of Portsmouth*, 1863; *The London & Provincial Medical Directory*, 1863.

[30] B. Stapleton, 'The Population of the Portsmouth Region' in *The Portsmouth Region*, ed. by B. Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 83-117 (p. 104).

[31] PCRO PR/H/7/2/1, Portsmouth Royal Hospital Annual Reports 1849-1859. The general history of The Royal is covered in Gange, *The Hospitals of Portsmouth*, pp. 25-48.

[32] On the marketing and sale of patent medicines see: P. S. Brown, 'Medicines Advertised in Eighteenth-Century Bath Newspapers', *Medical History*, 20 (1976), 152-168; H. Marland, 'The Doctor's Shop': The Rise of the Chemist and Druggist in Nineteenth-Century Manufacturing Districts' in *From Physick to Pharmacology: Five Hundred Years of British Drug Retailing*, ed. by L. H. Curth (Aldershot: Ashgate, 2006), pp. 79-104.

[33] M. E. Fissell, 'The Marketplace of Print', in *Medicine and the Market in England and Its Colonies, c.1450-c. 1850* ed. by M. S. R. Jenner and P. Wallis, (Basingstoke: Palgrave Macmillan, 2007), pp. 108-132; G. Smith, 'Prescribing the Rules of Health: Self-Help and Advice in the Late Eighteenth Century', in *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, ed. by R. Porter (Cambridge: Cambridge University Press, 1985), pp. 249-282, (pp. 250-256).

[34] Porter, *Quacks, Fakers and Charlatans*, pp. 47-49.

[35] Details of Doctors' qualifications are readily available in *The London & Provincial Medical Directory*. These were produced annually from 1849.

[36] Riley, 'The Industries', p. 9.

[37] W. G. Gates, ed. *City of Portsmouth Corporation Records: 1835-1927* (Portsmouth: Charpentier, 1928), p. 110.

[38] Riley, 'The Industries', p.40.

[39] Gates, *City of Portsmouth*, p. 105.

[40] Gates, *City of Portsmouth*, p. 107.

[41] Gates, *City of Portsmouth*, p. 104.

[42] Stapleton, 'The Population', p. 104.

[43] Webb and others, *The Spirit*, pp. 21-28.

[44] Stapleton, 'The Population', p. 104.

[45] This map was constructed using data extracted from: *Chamberlain's Directory of Portsmouth*, 1879; *The London & Provincial Medical Directory*, 1879.

[46] R. K. Massie, *Dreadnought: Britain, Germany and the Coming of the Great War* (London: Pimlico, 1998), pp. 150-59; Gates, p. 169.

[47] Riley, *Portsmouth: Ships, Dockyard and Town*, p. 41.

[48] Riley, 'The Industries', p. 9.

[49] Gates, *City of Portsmouth*, pp. 151-170.

[50] Stapleton, 'The Population', p. 104.

[51] Gates, *City of Portsmouth*, p. 198.

[52] This map was constructed using data extracted from: *Kelly's Directory of Portsmouth*, 1896; *The London & Provincial Medical Directory*, 1896.

[53] Digby, *Making a Medical Living*, pp. 112-116; Loudon, *Medical Care and the General Practitioner*, pp. 117-125. Loudon suggests that railways had the profoundest influence on consulting practice: 'Doctors and Their Transport', p. 196.

[54] Much has been written on the subject of 'High St' retailing. For examples from this literature see note 7 above. In addition, a useful collection of essays can be found in: *The Emergence of Modern Retailing 1750-1950*, ed. by N. Alexander and G. Akehurst (London: Frank Cass, 1999). For a more recent see: J. Stobart, A. Hann and V. Morgan, *Spaces of Consumption: Leisure and Shopping in the English Town, c.1680-1830* (London: Routledge, 2007).

[55] Marland, 'The Medical Activities', p. 416.

[56] Research on the issue of self-dosing indicates that this practice was very widespread across the social spectrum. See: J. Lane, *A Social History of Medicine: Health, Healing and Disease in England, 1750-1950* (London: Routledge, 2001), pp.165-167; R. Porter, 'The Patient in England, *c.* 1660 –*c.* 1800' in *Medicine in Society: Historical Essays*, ed. by A. Wear (Cambridge: Cambridge University Press, 1992), pp. 91-118 (pp. 96-114); Porter, *Quacks, Fakers and Charlatans*, pp. 45-50; M. E. Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol* (Cambridge: Cambridge University Press, 1991), p. 37.

[57] This point is well-established in the secondary literature. Loudon suggests that increasingly after the 1820s many doctors bought carriages, while some practising in cities and earning larger incomes even hired a coach and coachmen. These were regarded as important statements of social standing and were all part and parcel of creating the right impression when visiting affluent patients: Loudon,

'Doctors and Their transport', pp. 185-197; Loudon, *Medical Care and the General Practitioner*, pp.122-125.

[58] Digby, *Making a Medical Living*, pp. 176-185.

[59] Doctor Doyle subsequently went on to write the world famous Sherlock Holmes stories. His time in private medical practice is recorded in two main texts and a collection of letters: A. C. Doyle, *Memories and Adventures: Oxford Letters and Memoirs* (London: Hodder and Stoughton, 1924; repr. Oxford: Oxford University Press, 1989); A. C. Doyle, *The Stark Munro Letters: Being a Series of Twelve Letters Written by J. Stark Munro, M.B. to His Friend and Former Fellow-Student, Herbert Swanborough, of Lowell Massachusetts, During the Years 1881-1884* (London: John Murray, 1923: repr. Digireads.com, 2004); J. Lellenberg, D. Stashower, and C. Foley, eds., *Arthur Conan Doyle: A Life in Letters* (London: HarperPress, 2007). The *Stark Munro Letters* refers to his experiences of practice in Southsea under the fictional name of J. Stark Munro M.B.

[60] Doyle, *The Stark Munro Letters*, p. 94.

[61] Digby has made similar observations concerning doctors' locations and territoriality: Digby, *Making a Medical Living*, pp. 108-109.

[62] Doyle, *Memories and Adventures*, p. 65.

[63] J. Noon, *King Cholera Comes to Portsmouth*, (Portsmouth: Portsmouth Museums Service, 1972), p.3.

[64] PCRO CCR/VI/1, Medical Officer of Health Report 1882, p.3.

[65] This map was constructed using data extracted from: *Kelly's Directory of Portsmouth*, 1896; *The London & Provincial Medical Directory*, 1896. The Ordnance Survey Map, 1896 was used to fix the location of affluent areas. These can be very clearly discerned from the tightly-packed housing evident across the rest of Portsmouth: *Old Ordnance Survey Maps Southsea 1896*, published by Alan Godfrey Maps, Consett.

[66] R. C. Riley, 'The Growth of Southsea as a Naval Satellite and Victorian Resort', *Portsmouth Papers*, 16 (1972), 3-25 (pp. 18-19).

[67] *Pigot & Co's Directory of Hampshire, 1844.*

[68] Riley, 'The Growth of Southsea', pp. 3-5.

[69] *Kelly's Directory of Portsmouth, 1896.*

[70] For an outline of various responses to ill-health and how these could vary according to socio-economic background, see: King, *A Fylde Country Practice*, pp. 33-65.

[71] Marland estimates that by the mid-nineteenth century the minimum fee generally charged for one visit from a general practitioner was 5*s.*, excluding medicines: Marland, 'The Medical Activities', p. 439.

[72] Doyle, *Memories and Adventures*, p. 65.

[73] In 1841, Nineteen friendly societies were listed for Portsea Island, see: Portsmouth and Portsea Literary and Philosophical Society, 'Statistics of the Island of Portsea', *Journal of the Statistical Society of London*, XVI (1853), 201-243 (p. 242). For detail on the Ancient Order of Foresters see

Riley's exhaustive study: J. C. Riley, *Sick Not Dead: The Health of British Workingmen During the Mortality Decline* (London: Johns Hopkins University Press, 1997).

[74] Digby, *Making a Medical Living*, pp. 39-51.

[75] Parry and Parry, *The Rise of the Medical Profession*, p. 148.

[76] J. M. Haas, 'Work and Authority in the Royal Dockyards From the Seventeenth Century to 1870', *Proceedings of the American Philosophical Society*, 124 (1980), 419-428 (p. 421).

Chapter Four

Portsmouth's Medical Market

Chapter three used a cartographical approach to offer a re-interpretation of the medical market. This chapter develops a clearer picture of what this market actually 'looked' like and how it 'behaved'. The secondary literature gives us a number of clues about what to expect. If Portsmouth's market conformed to the wider generalisations of the medical market hypothesis, then progressive overcrowding should characterise its development on the supply side, accompanied by fierce competition between providers as they sought to safeguard their position. Digby suggests that this situation worsened over the course of the nineteenth century and was fuelled by the failure of government to fully regulate medicine through legislation such as the Apothecaries Act of 1815 and the Medical Act of 1858.[1] On the demand side of the market, the consequences of this oversupply should be equally as clear. According to the Loudon, it was during this period that the balance tipped in favour of the patient: in order to reach an equilibrium, prices in the medical market had to fall, which in turn opened it up to wider consumer participation.[2]

The ensuing analysis picks up and develops themes that emerged in the last chapter. Although written from the perspective of supply, patients nonetheless feature prominently. The discussion starts with a thorough examination of the commercial behaviour exhibited by providers in the market, including those who, up until now, have escaped close attention. This permits refinement of the conclusions that were drawn from the historical geography of provision and brings us closer to the relationship that existed between providers and between providers and consumers. The chapter concludes by tracing the chronological development of the market. By relating this to the four previously identified periods in Portsmouth's history, light is shed on the issue of market operation, providing us with the kind of nuanced rendering of the medical market that the historiography has lacked for so long.

4.1: Commercial Behaviour

Maintaining an effective communication with the market is a chief concern of any commercial enterprise. The same was true in the past. In order to survive and prosper, all businesses needed to attract and retain custom. They also had to control costs and seek out ways of gaining the edge over their competitors.[3] The means by which these ends were accomplished can be broadly described as 'commercial behaviour'. Understanding this behaviour is far from straight forward. In practice it could take many forms: some overt, some covert. It was also usually undertaken with the expectation that several positive outcomes would be achieved. As Digby and others have noted, this was certainly the case with providers in the nineteenth-century medical market. Doctors for example, often took on less lucrative work with a number of objectives in mind: to establish a reliable income stream; to protect their 'patch'; to make important social contacts; and to attract wealthy private clients.[4] Notwithstanding the obvious complexities that this presents, an examination of the overt forms of advertising used by Portsmouth's private healthcare providers is a useful starting point for our discussion. As Brown discovered when he looked at the advertising of medicines in eighteenth-century Bath, study in this area can yield fruitful insights into the local medical market.[5]

Advertising

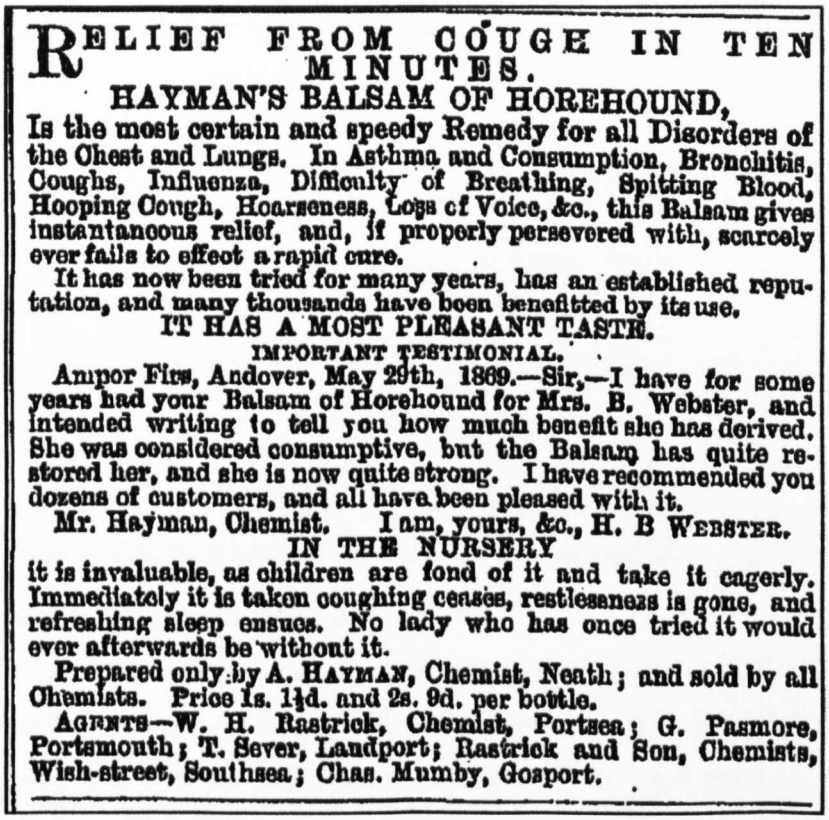
> **'No company that markets products or services to the consumer can remain a leader in its field without a deep-seated commitment to advertising'**
>
> *Edwin L. Artz, Chairman of Proctor & Gamble*

During the nineteenth century technological advances in print production and in the transmission of information, together with rapidly improving literacy levels, combined to make printed matter a common part of everyday life.[6] Businesses in general, including some healthcare providers, were quick to recognise and then exploit the potential marketing opportunities that arose from these developments. The most obvious way in which they did this was through printed advertisements.[7] These appeared in a variety of places, including handbills, trade cards and

billboards, and in local newspapers and trade directories.[8] The principle advantage of these media was that they provided businesses with a relatively cheap way to reach large numbers of potential customers.[9] This was perhaps particularly the case with local newspapers.[10] In Portsmouth, for an outlay of just a shilling, a short advertisement could be placed three times in the *Evening News*. As the editors boasted, this circulated widely throughout Portsea Island and, at the time, was the only daily newspaper in Hampshire.[11] Like the rest of the country, the column inches given over to advertising in Portsmouth's many local newspapers grew at a staggering pace. By the 1870s they were literally awash with advertisements.[12]

Given the wide readership of newspapers it is unsurprising to find that mass-market businesses dominated the advertising in them. As a cursory glance at any late nineteenth-century newspaper shows, just about every 'high street' business advertised in this way. Advertisements placed by healthcare providers appeared regularly in all of Portsmouth's newspapers.[13] There were essentially three types of medical advertisement. The first, and by far the most common, were advertisements for a particular healthcare product or range of healthcare products. This might be for a medical advice book, such as Doctor Brodum's *A GUIDE to Old Age; or, A CURE for the INDISCRETIONS of YOUTH*, which appeared in the *Portsmouth Telegraph* in 1801 or, more normally, they were for patent medicines.[14] From the sample of fifty local editions that were analysed (one examined every two years, starting in 1800), the content of these latter advertisements remained more or less stable throughout the century: after profiling the medicine and giving an exhaustive list of the ailments and conditions it was 'guaranteed' to cure, a number of patient testimonies followed. The advertisement then concluded by detailing where the medicine could be obtained.[15] On most occasions, a mail order address (usually in London) was provided, along with details of local stockists. These were primarily chemists in Portsmouth and Gosport, but booksellers also appeared from time to time. Figure 4.1 below shows a typical example. A variant of this type of advertisement was posted directly by local chemists, marketing a particular medicine or preparation unique to themselves. For example, the Portsea chemist and druggist, Allnutts and Sons, frequently advertised '*Allnutts' Fruit Lozenges*'. These were a

remedy for coughs, colds, sore throats and hoarseness which, so Allnutts claimed, were 'peculiarly beneficial' for public speakers and singers.[16]



RELIEF FROM COUGH IN TEN MINUTES.

HAYMAN'S BALSAM OF HOREHOUND,

Is the most certain and speedy Remedy for all Disorders of the Chest and Lungs. In Asthma and Consumption, Bronchitis, Coughs, Influenza, Difficulty of Breathing, Spitting Blood, Hooping Cough, Hoarseness, Loss of Voice, &c., this Balsam gives instantaneous relief, and, if properly persevered with, scarcely ever fails to effect a rapid cure.

It has now been tried for many years, has an established reputation, and many thousands have been benefitted by its use.

IT HAS A MOST PLEASANT TASTE.

IMPORTANT TESTIMONIAL.

Ampor Firs, Andover, May 29th, 1869.—Sir,—I have for some years had your Balsam of Horehound for Mrs. B. Webster, and intended writing to tell you how much benefit she has derived. She was considered consumptive, but the Balsam has quite restored her, and she is now quite strong. I have recommended you dozens of customers, and all have been pleased with it.

Mr. Hayman, Chemist. I am, yours, &c., H. B WEBSTER.

IN THE NURSERY

it is invaluable, as children are fond of it and take it eagerly. Immediately it is taken coughing ceases, restlessness is gone, and refreshing sleep ensues. No lady who has once tried it would ever afterwards be without it.

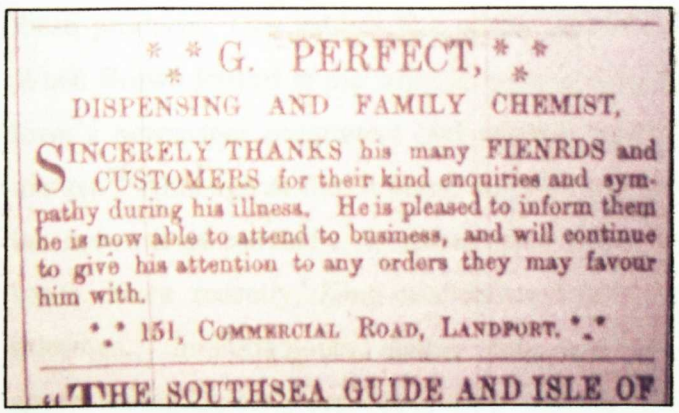
Prepared only by A. HAYMAN, Chemist, Neath; and sold by all Chemists. Price 1s. 1½d. and 2s. 9d. per bottle.

AGENTS—W. H. Rastrick, Chemist, Portsea; G. Pasmore, Portsmouth; T. Sever, Landport; Rastrick and Son, Chemists, Wish-street, Southsea; Chas. Mumby, Gosport.

Figure 4.1: Example of Typical Medical Advertisement, *Hampshire Telegraph*, 15 January 1876

The second type of advertisement promoted the chemist rather than the medicine. Again, these advertisements appeared frequently. Generally speaking, they were short and straight forward in both their format and content, sometimes amounting to nothing more than a trading name and address. Often though, these basic details were supplemented by a series of statements designed to instil confidence in the potential consumer. As Marland found in her study of Wakefield and Huddersfield, comments concerning the quality of the medicines stocked or the chemists' accuracy in compounding prescriptions were not uncommon.[17] These might be interpreted as serving a dual purpose, appealing both to the end consumer and to doctors who were looking for a trustworthy local chemist to make up their patient prescriptions.[18] Especially later in the century, it was also normal for these

advertisements to include the phrase 'family chemists'. The other way in which chemists advertised themselves in local newspapers was by making a public announcement. The Landport chemist George Perfect, provides a typical example. The item detailed in figure 4.2 below appeared on at least two separate occasions in 1876.



* * G. PERFECT, * *

DISPENSING AND FAMILY CHEMIST,

SINCERELY THANKS his many FIENRDS and CUSTOMERS for their kind enquiries and sympathy during his illness. He is pleased to inform them he is now able to attend to business, and will continue to give his attention to any orders they may favour him with.

_ 151, COMMERCIAL ROAD, LANDPORT. *_*

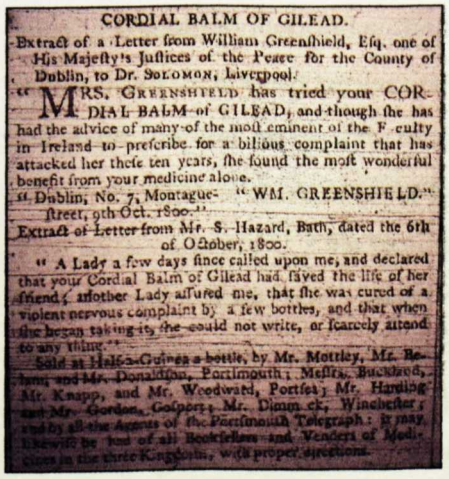
"THE SOUTHSEA GUIDE AND ISLE OF

Figure 4.2: *Southsea Observer*, 7 & 14 April 1876

The aforementioned advertisements tell us a great deal about Portsmouth's medical market. To begin with, on the supply side, it is clear that the sale of patent medicines was an important component of the local market. When King studied medicine in Lancashire he came to the same conclusion, contending that this was self-evident from the sheer volume of advertisements for these products that he discovered.[19] The situation was the same in Portsmouth; throughout the century large numbers of patent medicines were marketed in every local newspaper. King's argument can be taken a step further by considering the cost of the medicines advertised. In the sample examined, starting prices were generally found to be very low and showed little variance over time. Typically, a packet of pills cost in the region of sixpence and a bottle of the same just over a shilling. To take just two examples, in 1811 '*Dr Radcliffe's Elixir*' was advertised in the *Portsmouth Telegraph* at 1*s* 1½*d*., a bottle, while in 1876 bottles of '*Friend of All Holloways Pills*' were advertised in the *Southsea Observer* for exactly the same price.[20] Patent medicines were therefore well within the reach of the general population. They were also considerably cheaper than employing the services of a doctor, which usually

entailed a consultation fee as well as the cost of any medicines prescribed. Marland estimates that by the mid-nineteenth century the minimum fee charged for one visit by a doctor was 5*s*., excluding the cost of medicines.[21] At the same time, the low ticket value of patent medicines indicates that economic success for the supplier was dependant upon achieving high sales volumes.

We can also begin to piece together the distribution network that operated for these products. This subject has so far received scant attention from historians. When Brown looked at the issue in eighteenth-century Bath he discovered that the town's newspaper proprietors and printers were often important players in this market.[22] Although at first it seems surprising that they should have formed part of the network of providers, it makes sense given that they owned the advertising space. More recently, King has demonstrated the role played by door-to-door salesmen.[23] In Portsmouth, similar links were found with newspapers and their agents during the early decades of the nineteenth century. Figure 4.3 below shows an example of an advertisement in which the agents of the *Portsmouth Telegraph* are named as vendors. Additionally, although no evidence was found of medicines being sold door-to-door, this almost certainly happened as well, considering the town's status as a seaport and the through flow of people that went with this. It is however very clear from the advertisements that throughout the century, chemists, and to a lesser extent booksellers, were vital in satisfying local demand for these products.



CORDIAL BALM OF GILEAD.

Extract of a Letter from William Greenfhield, Eſq. one of His Majeſty's Juſtices of the Peace for the County of Dublin, to Dr. SOLOMON, Liverpool.

"MRS. GREENSHIELD has tried your CORDIAL BALM of GILEAD, and though ſhe has had the advice of many of the moſt eminent of the Faculty in Ireland to preſcribe for a bilious complaint that has attacked her theſe ten years, ſhe found the moſt wonderful benefit from your medicine alone.

"Dublin, No. 7, Montague-ſtreet, 9th Oct. 1800." "WM. GREENSHIELD."

Extract of Letter from Mr. S. Hazard, Bath, dated the 6th of October, 1800.

"A Lady a few days ſince called upon me, and declared that your Cordial Balm of Gilead had ſaved the life of her friend; another Lady aſſured me, that ſhe was cured of a violent nervous complaint by a few bottles, and that when ſhe began taking it, ſhe could not write, or ſcarcely attend to any thing."

Sold at Half-a-Guinea a bottle, by Mr. Mottley, Mr. Bellas, and Mrs. Donaldſon, Portſmouth; Meſſrs. Buckland, Mr. Knapp, and Mr. Woodward, Portſea; Mr. Harding and Mr. Gordon, Goſport; Mr. Dimmock, Winchester; and by all the Agents of the Portſmouth Telegraph: it may likewiſe be had of all Booſellers and Venders of Medicines in the three Kingdoms, with proper directions.

Figure 4.3: Advertisement Detailing Agents of the Newspaper as Vendors, *Portsmouth Telegraph*, 23 February 1801.

The other means by which the people of Portsmouth could obtain patent medicines was by ordering them through the post. Parallels can be drawn here with the practice of 'doctoring-by-post', whereby doctors would undertake consultations through an exchange of letters with patients.[24] It is impossible to say how extensive either practice was, but for medicines that purported to treat embarrassing conditions or deal with problems such as unwanted pregnancies it was probably a popular choice.[25] Indeed, the advertisement for '*DR DAVIS'S FAMOUS FEMALE PILLS*', [which] '*No irregularity or obstruction can resist*' gave patients little option in the matter. Although a mail order address was provided, no details of local stockists were given.[26] For our purposes, the important point is that some ill health in Portsmouth was being privately treated outside of the local medical market. The ramifications for Portsmouth's chemists were, potentially, significant. It should be remembered that many of them produced and sold their 'own brand' of over-the-counter medicines, with some chemists even choosing to advertise themselves in this way. Therefore, in order to compete, parity in price between their own products and patent medicines was probably essential. In effect, the price of locally produced and compounded medicines was being determined not just by the economic forces in Portsmouth's own medical market, but by outside influences as well.

Unfortunately, for obvious reasons, there is no documentary evidence to support this contention. What can be said though, is that when local chemists advertised their own medicines, they pitched their prices at a level comparable with patent medicines advertised at the same time. '*Allnutts' Fruit Lozenges*' for example (which were mentioned earlier), were marketed at 1s 1½d a box. In the *Hampshire Telegraph* on the same day in 1850 *'Norton's Camomile Pills'* appeared, also advertised at 1s 1½d. According to the manufacturers these were available in every town of the country.[27] This similarity in pricing continued throughout the century. Some twenty years later Moody's the Landport Chemist advertised *'Moody's Tamarind Emulsion'* a cure for all lung affections at 1s 1½d. In the same newspaper *'Cockle's Antibilious Pills'*, which the makers boasted were available across the United Kingdom as well as in India, China, New Zealand and the Australian Colonies, were advertised at the same price.[28]

The first two categories of newspaper advertisements imply that demand for patent medicines and other, over-the-counter medicines, was high throughout the century. Put another way, self-dosing as a response to ill health was widespread in Portsmouth. The same advertisements also tell us that chemists were at the forefront of satisfying this demand. Although it is known that they also acted as quasi doctors, particularly to the labouring classes, this free service tended to be just a precursor to the purchase of drugs. Rather than trading in intangible commodities such as medical advice, the bulk of chemists' business activities involved selling concrete healthcare products. These included patent medicines, traditional herbal remedies, doctors' prescriptions they had compounded and their own special preparations.[29] This made their relationship with the consumer more straightforward; fundamentally it was economic. Whereas the historical record is littered with instances of doctors complaining about unpaid bills, no such examples exist for chemists.[30] This is not to say that they refused to accept payment in kind, or offer credit to some customers, but merely to draw attention to the fact that like most other shops on the high street, they normally sold their wares in return for payment at the time of purchase. We can also tell from the prices of the medicines that they marketed that the economic entry point to this part of the medical market was low enough to permit access to all but the very poorest in society.

It would be tempting at this point to simply conclude that chemists were mass-market providers. Although such a description is certainly valid, the danger with the term 'mass-market' is that it can imply that the demand they responded to came primarily from the labouring classes. Research that has looked at the issue of self-dosing indicates that this was an activity regularly engaged in by people from across the social spectrum.[31] Advertisements placed by Portsmouth's chemists not only support this notion but also show that they specifically targeted more affluent groups.[32] This is implied in a general sense by the fact that, unlike the manufacturers of patent medicines, chemists also frequently advertised in trade directories. While it is acknowledged that newspapers had a high middle-class readership, trade directories were specifically geared towards the needs of this group.[33] They were also relatively expensive to buy, which placed them beyond the easy reach of many

people. For example, the *Post Office Directory of Hampshire, Wiltshire and Dorsetshire, 1855* was priced at twenty-five shillings, which amounted to almost two weeks wages for a labourer in the dockworker around this time.[34] However, the strongest evidence of chemists responding to localised demand from a specific group can be found in the *Southsea Observer*. Each week, for the benefit of its more affluent readers, this newspaper produced a hotel list with the names and accommodation details of important new visitors to the resort. Cruse & Co, who were dispensing chemists with several branches in Southsea, one of which was located in the fashionable Palmerstone Road shopping area, clearly recognised the unique marketing opportunity that this list offered. As figure 4.4 below shows, it was on this pull-out section of the newspaper that they specifically chose to advertise.

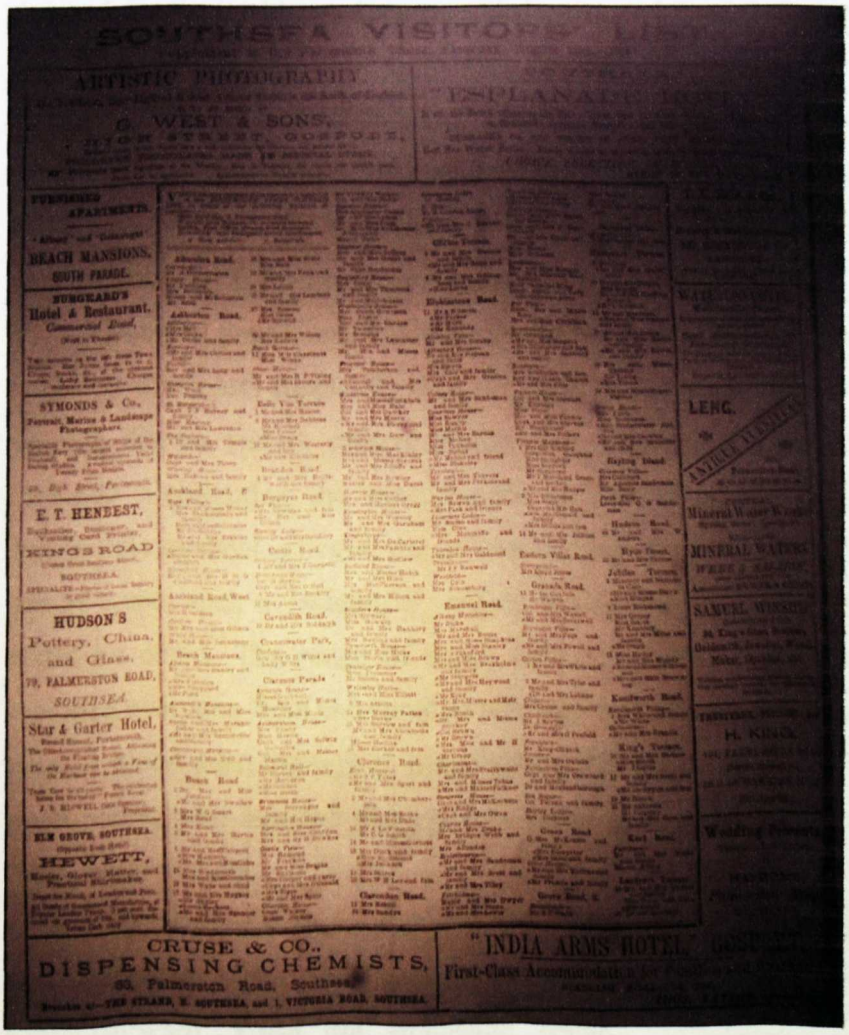


Figure 4.4: An Example of Targeted Advertising, *Southsea Observer*, 10 August 1872

Notwithstanding market imperfections such as medicine-by-post, the evidence from chemists' advertising behaviour sits well with the conclusions that were reached about these providers from their geographical location and distribution. Quite obviously, chemists were operating in a market. They located in the 'high street' which made them easily accessible and, like other retailers at the time, advertised extensively. Studies conducted on chemists in comparable towns during the nineteenth century have also revealed that they set-up attractive window displays, engaged in price competition and attempted to entice customers with special offers.[35] Their tendency to be found in greater numbers in the more densely populated northern areas of Portsmouth is consistent with the idea that market demand for the healthcare they provided emanated from the population as a whole. However, as the example from the *Southsea Observer* shows, chemists also recognised the economic value of certain groups in society and targeted them accordingly. This builds further on the contention that demand for healthcare could be highly localised. It also reiterates the importance of Southsea and in particular wealthy tourists, to the health of Portsmouth's medical market.

Medical practitioners placed the third and final type of advertisement. These appeared much less frequently than the ones for patent medicines and for chemists. Though format varied, content followed a similar template. Common elements included highlighting the practitioner's qualifications, speciality and links with appropriate medical colleges; use of titles such as doctor and professor; the judicious use of words such as 'scientific'; patient testimonies; and long lists of diseases that could be cured. The range of those who advertised in this way was wide and included everyone from chiropodists who claimed to treat corns and bunions without pain or blood loss, through to practitioners of medical galvanism, homœpathy and hydropathy, who asserted that just about every disease and complaint was within their power to cure.

The common denominator linking this disparate group was that, with very few exceptions, they were unorthodox practitioners. The reasons for this were straightforward. Since the eighteenth century, professional etiquette amongst

physicians had prescribed that they should not advertise for patients.[36] Subsequently, the formation of the General Medical Council in 1858, led to a professional ban on all forms of personal advertising being extended to both physicians and surgeons appearing on the medical register (other than a simple name plate at place of practice or to notify the public of a change of address).[37] In Portsmouth this ban appears to have been respected.[38] In the sample of newspapers, only one instance was found of a orthodox practitioner placing an advertisement.[39] The practitioner concerned was the surgeon, William Denham, who received his LSA in 1828 and MRCS in 1829. After serving as an assistant surgeon at the convict depot in Dartmoor and then as a surgeon at St James' Hospital in Doncaster, Denham set up in private practice in Southsea in the late 1850s.[40] Very shortly afterwards he appears to have largely forsaken orthodox medicine. By the mid-1860s, although still recorded in trade directories as a surgeon, he was also listed as the proprietor of the Homœpathic and Hydropathic Establishment, which was located in Old Portsmouth.[41] It was by advertising these treatments, as opposed to his services as a surgeon, that Denham was evidently able to safely negotiate the advertising ban.

The advertisements placed by these practitioners help to illuminate another aspect of Portsmouth's medical market that was hidden from view in the previous chapter. Detail concerning the numbers and activities of Portsmouth's unorthodox practitioners or medical fringe in the nineteenth century is very thin on the ground. Editorial comments in the *Hampshire Telegraph* reveal that the Free Mart Fair, a fifteen-day annual event held every July up until 1847, attracted an 'abundance of mountebanks'.[42] It is also known that 'Sequah', described by Porter as the 'most flamboyant quack ever to traverse England', began his 'medical' career in Portsmouth in September 1887.[43] But, beyond this, there is very little to go on. Brown encountered the same issue in his highly-detailed study of medical provision in mid-nineteenth-century Bristol. Although he could detect a large presence of such practitioners from comments made by local doctors, an examination of the census records for 1851 and a survey of every issue of five local newspapers in the same year, produced evidence of just a handful.[44] In Portsmouth, the local medical faculty, unlike their colleagues in Bristol, were mute on the subject, at least in public

anyway. Whether they discussed the subject behind closed doors is also unclear as there is no surviving evidence of a medical society in Portsmouth. This makes the occasional advertisements that appeared in local newspapers valuable pieces of evidence.

At the outset, it needs to be recognised that these advertisements provide us with a glimpse at the upper, if not necessarily more respectable, end of unorthodox provision in the town. Those who advertised via this medium invariably practised from fixed locations. In itself this is instructive as it indicates that there was sufficient local demand for unorthodox forms of medicine to sustain at least some providers in proper premises. It also tells us that, unlike the quack who peddled 'cure-alls' town-to-town and then departed before disillusioned customers could catch up with him, these were practitioners who probably believed sincerely in the treatments that they offered. Those who left their mark in Portsmouth's newspapers were therefore the tip of the iceberg. Just as we saw with patent medicines and the range of products and services available from chemists, unorthodox or alternative forms of medicine and medical treatment were also important commodities in Portsmouth's medical market.

This prompts the obvious question: what was their market? The secondary literature is clear on this matter. Sources as wide-ranging as contemporary parliamentary reports, patients' letters and diaries, and public comment concerning quacks and quackery, all signify that demand came from across the social spectrum.[45] This conclusion is borne out by the content of the advertisements found in Portsmouth's newspapers. Although none quoted prices, it is significant that in every case the illnesses and conditions that were marketed as treatable, were those which afflicted both the rich and the poor. The geographical location of the practitioners who advertised was also more akin to Portsmouth's chemists than its doctors. Rather than gravitating towards the periphery of the four towns, they were found in 'high street' locations. Hence, although it is impossible to put a finger on just how prevalent fringe practitioners were in Portsmouth, the indications are that they were numerous and serious players in the market. The evidence also points to a degree of segmentation. On the one hand there were the mountebanks who graced

the Free Mart Fair each year. These were undoubtedly the kind of unscrupulous practitioners that advertised via handbills in public houses and sold useless nostrums. On the other hand there were those who displayed all the traits of respectable businessmen. Far from being marginal, this latter group had a visible presence: they operated from fixed premises in prime locations and advertised in local newspapers. This reflected both the limited curative power of orthodox medicine and the failure of its practitioners to achieve a monopoly in the medical market.

Beyond Advertising: Case Study of a Southsea Doctor

> **In the first year the Income Tax paper arrived and I filled it up to show that I was not liable. They returned the paper with "most unsatisfactory" scrawled across it. I wrote "I entirely agree" under the words and returned it once more. For this little bit of cheek I was had up before the assessors, and duly arrived with my ledger under arm. They could make nothing, however, out of me or the ledger, and we parted with mutual laughter and compliments**
>
> *Doctor Doyle recounting his early days in practice*[46]

Though instructive, the analysis of overt advertising tells us next to nothing about one vital group of providers in Portsmouth's medical market: orthodox practitioners. On the basis of their geographical location and distribution it was argued that although this group treated people from all sections of society, the notion of a simple market relationship between doctor and patient was problematic further down the social scale. Fortunately, Doctor Doyle left comprehensive records of his years in Portsmouth. Comprised of memoirs and a series of letters, these give a priceless glimpse at a doctor setting-up and then building a private practice.[47] Obviously, care has to be exercised about reading too much into the experiences of a single doctor. But, as will quickly become apparent, the Doyle archive is so rich that it bestows much broader insights into private provision in the town. A study of Doyle's career thus provides a solid base from which to examine the extent to which the commercial behaviour of Portsmouth's doctors matches the conclusions that were drawn from their historical geography.

Arthur Doyle was born in Edinburgh in 1859. Although the Doyles were a prosperous Irish-Catholic family, at home money was often in short supply because

Arthur's father was a chronic alcoholic.[48] At the age of nine, the family paid for Arthur to be educated at a Jesuit boarding school in England.[49] When he left in 1876, aged 17, he returned to Edinburgh where one of the first things he did was to co-sign the committal papers for his father, whose mental health was steadily deteriorating.[50] Doyle's decision to follow a medical career was influenced by a young doctor that his mother had taken in as a lodger in order to help with the household finances.[51] Having won a scholarship and doubtless assisted by the wider family, Doyle commenced his medical studies at Edinburgh University in October 1876, emerging five years later with an MB and CM.[52] As a student, Doyle gained much valuable practical experience. During his first two summers he worked as an assistant at a low-class practice in the poorer quarters of Sheffield; at a rural practice in Shropshire; and with Doctor Reginald Ratcliff Hoare, who was an extremely busy and successful physician in Aston, Birmingham.[53] In his third year, Doyle spent seven months as ship's surgeon onboard an arctic whaler. [54]

After graduating in August 1881, Doyle took the post of medical officer on a steamer travelling from Liverpool to the west coast of Africa.[55] On his return, he was invited to join a general practice in Plymouth, established in June 1881 by George Budd, a rather flamboyant character from his university days. Doyle duly accepted the offer and arrived in Plymouth to find that Budd, who he described as 'half genius and half quack', had a practice already worth several thousand pounds of ready money each year.[56] Doyle however, balked at his colleague's methods and a philosophy that placed money before patients' health. He quickly came to realise that the practice's rapid success had been built on the sale of drugs which were compounded in-house and judiciously prescribed by Budd, who attracted crowds of patients using the slogan 'Free consultations but pay for your medicine'.[57] Hence, after just six weeks, they parted company. At first Doyle considered setting up a practice in Tavistock, but a day trip to the town convinced him that there was no opening, so he decided to try his luck in Portsmouth: 'the only reason being that I knew the conditions at Plymouth, and Portsmouth seemed analogous'.[58]

Doyle travelled to Portsmouth by Irish steamer and arrived in June 1882, with just £10 starting capital and carrying all his worldly possessions in a large

trunk. These included his doctor's bag and, importantly, his doctor's brass nameplate.[59] During his first week, Doyle took cheap lodgings and set about exploring his surroundings. Before deciding where to locate his practice he devoted considerable time to assessing the local competition:

> First of all... I bought a large shilling map...This done, I set to work to study it, and to arrange a series of walks by which I should pass through every street in the place...On the map I put a cross for every empty house and a circle for every doctor...and could [therefore] see at a glance where there was a possible opening and what opposition there was at each point[60]

As a stand-alone quote, this is highly informative. Doyle's methodical approach gives a sense of the lasting impression that his student experiences had created about the reality of practice in a competitive market. Quite clearly, commercial considerations were of central importance to Doyle on his arrival; geographical location was a fundamental concern. At the same time as wanting to locate in proximity to sources of demand, he also wanted to put physical distance between himself and the competition.[61]

Further insights can be gained by considering what Doyle's map may have looked like after his market research was completed. We know from chapter three that by the 1880s the geographical distribution of orthodox practitioners in Portsmouth was very uneven. Accordingly, Doyle's map would have had lots of 'circles' (doctors) in Southsea, but very few in Old Portsmouth, Portsea and Landport. Yet, despite this, he still concluded that his best prospects were in Southsea. One explanation for Doyle's decision to locate here is that he completely misjudged the local situation. This however, seems improbable, given that it would contradict the more general locational tendencies displayed by Portsmouth's doctors at this time. In his series of walks, Doyle could not have failed to notice the contrast between the cheap tenements of Landport and the spacious villas of Southsea. A more likely reading of the evidence is that Doyle's choice reflected his awareness that when the middle classes were ill, they were much more likely to privately employ a doctor than were the labouring classes. Doyle judged that, despite there being many doctors in Southsea, the biggest gap in the market was here. Right from the very outset, he therefore appears to have been responding to localised demand from specific groups. In essence, while affluent Southsea continued to expand, so

too did demand at the 'top-end' of Portsmouth's medical market. This meant that newcomers like Doyle could be accommodated without having to set-up in Portsmouth's poorer districts, as was beginning to happen in many other urban areas around this time.[62]

After purchasing drugs 'on tick' and securing premises along Elm Grove (the arterial road that bisected the rich and labouring-class areas of Southsea), Doyle attended a second-hand furniture sale in Portsea, and lavished the remainder of his resources on making his front room 'possible for patients'. In the back room however, his trunk doubled up as a chair and dining table and he survived on a diet of bread and bacon, cooking the latter in a pan that he had managed to rig up to the gas jet.[63] Having readied himself for practice, Doyle then set about the task of attracting patients. He began by announcing his arrival in Southsea through a notice placed in the *Portsmouth Evening News* on three consecutive days.[64] This was considered acceptable behaviour by a doctor and hence did not breech the advertising ban. In addition, under his brass nameplate he attached a sign advertising that between the hours of 10 and 1 on Mondays, Wednesdays and Fridays, he could be consulted free of charge. Although in a letter to his mother Doyle stated that this measure was simply to get 'the good will of the poor', it seems doubtful that this was his only intention.[65] Despite rejecting the methods of George Budd, the one thing that Doyle had learnt during his short time in Plymouth was that the sale of drugs to the labouring classes could constitute a reliable income stream in its own right. Bearing in mind the current state of his finances, this was exactly what he needed in order to survive on a day-to-day basis.

Initially, Doyle was very buoyant about his advertising strategy and was optimistic that it would quickly deliver results: 'No patients yet but the number of people who stop and read my plate is enormous. On Wednesday evening in 25 minutes 28 people stopped in front of it, and yesterday I counted 24 in 15 minutes, which is better still'.[66] However, after several weeks of poor results and with the few patients that had turned up coming only from the labouring classes, this optimism began to fade. Although he never explicitly stated it as an aim, right from the very start Doyle was attempting to entice middle and upper-class patients to his practice.

He was particularly worried for example, about the impression he created by answering his own door. After one of his first patients failed to return, he lamented 'I fancy that a doctor who opened his own front door forfeited their confidence'.[67] Similarly, before he could afford any domestic help, Doyle made sure to sweep the front of his house and polish his brass nameplate at night, when there was little risk of him being seen by existing or potential clients.[68] Doyle plainly knew what mattered to patients from this social grouping. His problem was how to turn this knowledge into patients.

Doyle had to wait until the autumn before he made any real headway in this direction. Progress first came after he befriended Doctor Pike, an established practitioner in Southsea, who also held an honorary position at the Royal and was a medical referee for the General Assurance Company.[69] Pike, who Doyle later described as a 'kindly sort of man', acted as something of a mentor to Southsea's newest doctor. Recognising the uphill struggle that Doyle faced, he started to send the occasional patient Doyle's way.[70] He also offered guidance concerning the 'free consultation sign' which, much to Doyle's bafflement, had failed dismally to attract any custom. Pike's advice was simple: take it down immediately. As Doyle recounted shortly afterwards: 'he said it answered in some towns but not in an exclusive place like Southsea'.[71] Doyle's second important break came when a crowd appeared at his door carrying a gentlemen who had been thrown from his horse while riding along Elm Grove. Doyle treated the shaken and badly bruised man and then proceeded to milk the situation for all it was worth. First, he took the patient home on an open carriage to his grateful wife. Next, he arranged for Innes (his younger brother who was now living with him) to visit the offices of the *Evening News*. That night, the 'Late Local News' category carried a full report of the accident, in which Doyle was named as the hero. In an enthusiastic letter to his mother, Doyle waxed lyrical:

> I doctored him – took him home in an open carriage (think of the advertisement!) – saw his wife – was thanked & complimented by all – and handed him over to the family doctor who bowed to my diagnosis. Ha! Ha! Wasn't that good! I have sent Innes off to get it into the evening papers. They are rich people and my guinea is quite safe, though I thought it best not to clamour for it at once. You could not imagine a finer advertisement, or a better case. I reckon I shall make £1.4.6 today but the notoriety is far better than the money – isn't it.[72]

Having learnt the advertising possibilities from such events, Doyle went on to use this tactic on several more occasions during his eight years in Southsea. His behaviour in this respect was unquestionably resourceful, but it was not necessarily unique. Evidence from earlier in the century reveals that Doyle was not the only doctor to benefit from newspaper publicity of this nature. Following an accident at the launch of HMS *Princess Charlotte* in 1825, the *Hampshire Chronicle* singled out Mr Porter and Mr Martell for praise.[73] In this case however, it has proved impossible to establish whether either practitioner played a 'Doyle-like' part in the appearance of their name in print.

The events of the autumn taught Doyle an important lesson: 'you may sit upon your consulting-room chair until it breaks under you, but without purchase or partnership you will make little or no progress'.[74] Henceforth, Doyle adopted a more proactive strategy towards building his practice. He began by observing all the professional niceties that were expected of a newcomer. This involved calling upon the older practitioners in the town and introducing himself.[75] According to the historiography the late-nineteenth century medical market was severely overcrowded, hence one might have expected this to be a difficult and challenging task. Yet, there is no evidence to suggest that Doyle encountered any hostility whatsoever when making his introductions. The significance of this is picked up later on, when competition in Portsmouth's medical market is considered in greater depth.

Doyle also worked hard at raising his public profile and improving his social credentials with the objective of attracting wealthier custom. It was principally through his prowess as a cricketer and his activities as a member of Portsmouth's Literary and Scientific Society that he managed to achieve a reasonable degree of success in this regard.[76] As early as the following spring Doyle was able to tell his mother that the practice was doing well, with the status and the numbers of patients continuing to increase.[77] The Literary and Scientific Society, which ran a well-attended public lecture series each year, probably played the most important part in Doyle's change of fortunes. Having existed in one form or another for most of the century and with a membership comprised of Portsmouth's social elite, professional

people (including medical practitioners) and high-ranking naval officers, the society afforded Doyle excellent networking opportunities.[78] Moreover, as he discovered just eighteen months after his arrival at Southsea, there was a great deal of public notoriety to be gained from a well-received speech.[79] Doyle was not the only practitioner to recognise the commercial benefits of membership to the society. Right from its earliest days doctors had been heavily involved. Doctor Porter had been a founding member in 1811, while in 1830 the positions of librarian and secretary were held by the Old Portsmouth surgeons and brothers, Henry and Julian Slight.[80] Fifty years later little had changed. As the editor of the *Hampshire Telegraph* sarcastically commented:

> **We are always delighted to listen to Doctors; they are invariably so interesting, so instructive, and as a rule so coldly and philosophically practical... the current session so far has been wholly monopolised by the faculty[81]**

Conversely, while Doyle's memoirs reveal that he treated many from the labouring classes, they contain little evidence, witting or unwitting, that he actually proactively sought this type of patient. In fact, when playing for the local football team Doyle even went as far as to play under a false name, presumably because he feared that a public association with a 'lower-class' sport may have adversely affected his ability to attract clients of a higher social standing.[82] Doyle's strategy towards labouring-class patients was essentially cautious. Although they were the 'bread and butter' of his practice, it did not make economic sense for him to chase their custom. Rather, Doyle took on sufficient of these patients to keep the practice ticking over, while directing his main efforts towards the courting of wealthier clients. There appear to have been two main reasons for this. Firstly, like many other doctors at the time, Doyle charged patients according to their social status. In economic terms this meant that there was an opportunity cost in treating poorer people. To make any profit, large numbers needed to be seen.[83] Secondly, there was the issue of bad debts. Right from the outset these had weighed heavily on Doyle's mind. Consequently, when dealing with labouring-class patients who came to him direct, he tended to ask for payment up front. This was either in cash or in kind, such as the butter and tea he received from regularly treating a local grocer.[84] Doyle's

relationship with individual patients from this strata of society can best be described as symbiotic.

The way in which Doyle dealt with patients more generally also varied according to their social class. This was normal for doctors of the period and is well-established in the secondary literature.[85] In his dealings with affluent clients it is clear that power rested squarely with the consumer. The opposite was true of individuals from the labouring classes. These differences can be illustrated by looking at two examples of people he treated. In the first case, a colleague referred to him a young man who had started to suffer from severe fits. This particular patient, along with his sister and widowed mother, had recently appeared as visitors on the hotel list printed in the *Southsea Observer*.[86] Keen to help, and almost certainly hoping to secure the family's future custom, Doyle went as far as to furnish an extra room in his own home so that the young man could receive constant attention. In this way Doyle was able to use his housekeeper as a nurse, and the patient's mother was spared the embarrassment and disruption that her son's fits had started to cause at the family's lodgings.[87] In the second case, a man selling baskets off the back of a cart knocked on Doyle's door seeking treatment for his small daughter who was suffering from measles. Convinced that the man was a gypsy, Doyle ordered him to go away. It was only when the man continued to knock and then started to swear that Doyle eventually opened the door and agreed to treat the child for six-pence.[88] This latter case also neatly illustrates the constraints on labouring-class people as consumers in this segment of Portsmouth's medical market. Not only were there fewer doctors in Portsmouth's poorer districts - which restricted consumer choice and access - but there is also evidence that the practitioners themselves were in a position to pick and choose who they treated and on what terms. In Portsmouth, even as late as the 1880s, new doctors appear to have been under minimal pressure to expand the bottom end of their casebooks.

Other aspects of Doyle's behaviour indicate however, that when the labouring classes acted collectively they became a potent economic force. Four months after arriving in Portsmouth, Doyle inherited a sick club from a drunken

doctor. From a letter he sent to Doctor Reginald Hoare (who he had worked for in Aston as a student) it is evident that he was very pleased about this:

> I am not very sure of the rules yet...but as far as I can make out every member pays something like half a penny a week (!) for which they are entitled to wallow in as much medicine as they can stow away, and to be seen in their homes as well... though I lose on each member I make my profit on the quantity[89]

Doyle was also very quick to cultivate a relationship with the Superintendent of the Portsmouth branch of the Gresham Insurance Company, who played bowls at the same club as him. This proved instrumental in his appointment as the company's medical referee. Doyle was eager to secure this type of work for the simple reason that he knew it would provide him with a reliable income stream and afford him a degree of security against general economic downturns. He was by no means alone in actively seeking this sort of business. In keeping with the historiography, it is clear from provincial medical directories that such work became increasingly important to Portsmouth's orthodox practitioners.[90] By 1879, almost half of them had one or more appointments with state and private healthcare providers. Indeed by this date, one Landport practitioner appears to have been constructing his income entirely from these means. Holding positions with no less than ten insurance and assurance companies and friendly societies, as well as the posts of medical officer for the Railway District of Portsea Island Union and medical officer for the Dockyard Extension Works, Doctor Samuel Stickland was not even listed in local trade directories.[91]

Judged against the careers of other doctors in Portsmouth, Doyle's was fairly typical. In most respects his commercial behaviour also corresponded closely with the observations others have made of provincial practitioners during the nineteenth century. Doyle's experience of private practice thus allows us to build on the conclusions that have been reached so far about Portsmouth's medical market. Firstly, his choice of location and cautious stance towards individual labouring-class patients reiterates the importance of Southsea. The nature of its growth from the 1860s onwards ensured that demand for doctors remained buoyant in the local market. As a consequence, new arrivals were able to set-up in practice without needing to specifically target lower-end custom in order to survive. Based on the

geographical distribution of doctors detailed in chapter three, Portsmouth's medical market only **began** to open up in this way during the last decade of the nineteenth century. In this respect its development was slower than elsewhere. According to Digby, the targeting of labouring-class areas for professional expansion occurred earlier in many other places.[92]

Secondly, Doyle's varying policies towards patients of different social classes, suggests that while the individual healthcare needs of the affluent were successful in producing a market response from doctors, this did not happen to the same degree further down the social scale. This accords well with the historical geography and reinforces the contention that more doctors located in the southern part of Portsmouth because this was where demand for them was greatest. Finally, Doyle's efforts to secure an appointment with Gresham Insurance indicate that, in respect of doctors, the healthcare needs of the labouring classes transformed most effectively into market demand at a collective level. Again, this marries up with the historical geography. Although labouring-class healthcare needs may have had specific geographical dimensions, the collective demand that they produced did not. Doctors therefore derived little benefit from locating in poorer districts, unless they were targeting such custom at an individual patient level. As we have seen, this did not occur to any great extent until the last decade of the nineteenth century.

4.2: The Chronology of the Market

> **'The market can stay irrational longer than you can stay solvent'**
> *Attributed to John Maynard Keynes*

It is clear from the historical geography of Portsmouth's medical market and the behaviour of its various providers, that there were also important chronological aspects to the way provision developed and operated locally. In this final section, the four time periods used in chapter three are deployed again as a framework for exploring this chronology. Table 4.1 and Figure 4.5 take a collective look at Portsmouth. Table 4.1 details the changing numbers of orthodox practitioners and

chemists, and calculates the ratio of the former to the latter. Figure 4.5 plots the changing ratio of these providers to Portsmouth's population. Each of the four towns is then considered separately in Tables 4.2 to 4.4. Tables 4.1 to 4.4 have been constructed from the same sources that were used to plot the market's spatial dimensions. Only doctors known to be practising privately are included. Those holding full-time posts with state and/or charitable providers are excluded. Figures in parenthesis represent practitioners who it is suspected treated private patients, but where it has been impossible to establish for sure that this was the case. In most instances these were Royal Navy surgeons who, by virtue of their occupation, were often not long enough in a single location to be listed in trade directories. Population totals are included in the tables too, along with intercensal changes expressed as a percentage. It will be noted in Table 4.4 that while the numbers of providers for Landport and Southsea are detailed separately, the population figures for these two towns are combined. Though unfortunate, this reflects the reporting in census returns. It is for this reason that it has not been possible to produce meaningful population to provider ratios on a town by town basis. As a rough guide, approximately sixty-five per cent of the population was located in Landport, twenty-five per cent in north Southsea and the remaining ten per cent in more affluent south Southsea.

Table 4.1: Overall Numbers of Orthodox Practitioners and Chemists in Portsmouth

Year	Population	Orthodox Practitioners	Chemists	Ratio
1821	45648 (+12.5%)			
1824		31	12	2.58:1
1830		25 (1)	25	1:1
1831	50389 (+10.4%)			
1841	50556 (+0.3%)			
1844		36	31	1.16:1
1851	68969 (+36.4%)			
1852		36 (5)	41	0.88:1
1859		41 (2)	37	1.11:1
1861	94828 (+37.5%)			
1863		41 (3)	47	0.87:1
1865		46 (3)	47	0.98:1
1871	113595 (+19.8%)			
1879		45 (5)	65	0.69:1
1881	128022 (+12.7%)			
1891	159278 (+24.4%)			
1896		75	88	0.85:1

Period	Colour
1815-1843	Period 1
1844-1863	Period 2
1864-1881	Period 3
1882-1899	Period 4

Source: Census and intercensal changes quoted in B. Stapleton, 'The Population of the Portsmouth Region' , in *The Portsmouth Region*, ed. by B. Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 72-82 (p. 104).

Figure 4.5: Ratio of Orthodox Practitioners and Chemists to Population in Portsmouth

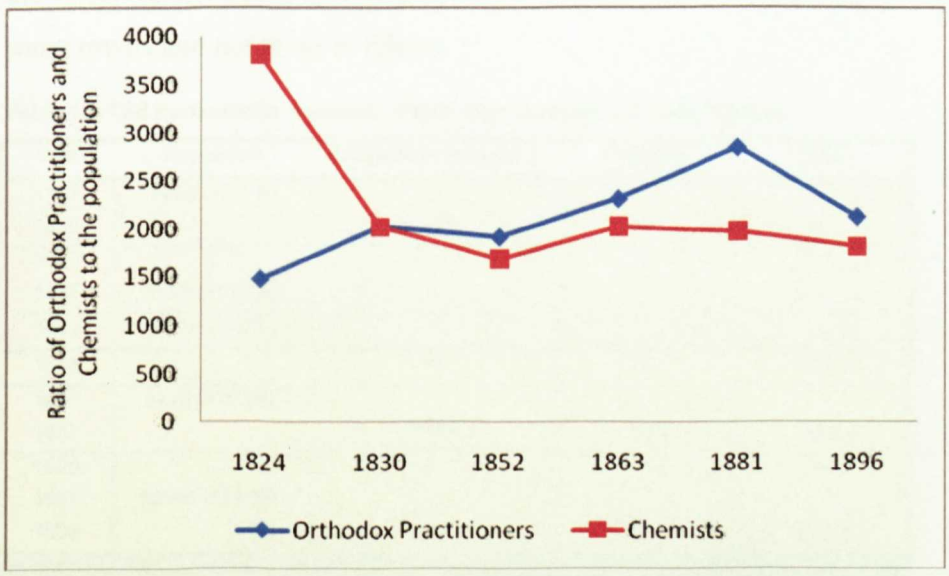


Table 4.1 shows that in Portsmouth as a whole the numbers of both orthodox practitioners and chemists grew during the century, as did the population. As far as chemists were concerned this growth was fairly steady, with just a minor blip in the

late 1850s and early 1860s. On the face of it, this trend accords well with the idea that chemists experienced demand from the population in general. Growth in the numbers of doctors was much more erratic. During period one, numbers actually fell, despite population growth running in excess of ten per cent. In periods two and three there was some growth, but in each case this was accompanied by a period of stagnation. It was only right at the end of the century that any significant rise in their numbers took place, which of course sits well with the idea that lower-class areas in Portsmouth were being targeted for professional expansion around this time. Figure 4.5 reveals that although numerically orthodox practitioners increased, their ratio to the population showed a diminishing trend until the last decade of the century. Conversely, the complete opposite occurred in relation to chemists. Interestingly, these trends show striking similarities with Marland's findings in Wakefield and Huddersfield.[93] This suggests that, in overall terms, Portsmouth's experience was akin to other large towns and cities in this period that were undergoing rapid population growth and urban expansion. The story in Portsmouth's four towns was, however, very different. A prima facie look at Tables 4.2 to 4.4 below, reveals that the observations made of Portsmouth as a whole were only partially borne out in some towns and not at all in others.

Table 4.2: Old Portsmouth: Numbers of Orthodox Practitioners and Chemists

Year	Population	Orthodox Practitioners	Chemists	Ratio
1821	7269 (+2.3%)			
1824		10	5	2:1
1830		8	8	1:1
1831	8083 (+11.2%)			
1841	7135 (-11.7%)			
1844		10	9	1.11:1
1851	8218 (+15.2%)			
1852		9 (1)	10	0.9:1
1859		8	8	1:1
1861	10346 (+25.9%)			
1863		7	8	0.88:1
1865		9	8	1.13:1
1871	11169 (+8.0%)			
1879		2	5	0.4:1
1881	7591 (-32.0%)			
1891	7661 (+0.9%)			
1896		3	7	0.43:1

Table 4.3: Portsea: Numbers of Orthodox Practitioners and Chemists

Year	Population	Orthodox Practitioners	Chemists	Ratio
1821	12622 (+14.7%)			
1824		16	5	3.2:1
1830		12	9	1.33:1
1831	13919 (+10.3%)			
1841	14177 (+1.8%)			
1844		15	11	1.36:1
1851	16383 (+15.5%)			
1852		9	12	0.75:1
1859		8	11	0.73:1
1861	19967 (+21.9%)			
1863		6	15	0.4:1
1865		6	12	0.5:1
1871	18430 (-7.7%)			
1879		4	9	0.44:1
1881	17183 (-6.8%)			
1891	14730 (-14.3%)			
1896		2	8	0.25:1

Table 4.4: Landport & Southsea: Numbers of Orthodox Practitioners and Chemists

Year	Population	Orthodox Practitioners	Chemists	Ratio
1821	25757 (+14.7%)			
1824		3/2	1/1	3/2:1
1830		4 (1) /1	5/3	0.8/0.33:1
1831	28387 (+10.2%)			
1841	29244 (+0.03%)			
1844		6/5	7/4	0.86/1.25:1
1851	44368 (+51.7%)			
1852		6 (1) /12 (3)	14/5	0.43/2.4:1
1859		9 (1) /16 (1)	11/7	0.82/2.29:1
1861	64515 (+45.4%) (Ssea 27611)			
1863		9/19 (3)	18/6	0.5/3.17:1
1865		7/24 (3)	18/9	0.39/2.67:1
1871	83996 (+30.1%)			
1879		12/27 (2)	28/23	0.43/1.17:1
1881	103248 (+22.9%)			
1891	136887 (+32.5%)			
1896		26/44	36/37	0.72/1.19:1
	(Ssea 49836 by end of century)			

Hence the discussion proceeds by looking at each period in turn, comparing and contrasting the way provision developed, town by town.

Period 1: 1815-1843

Notwithstanding the difficult times that followed the end of the Napoleonic Wars, Portsmouth's overall population continued to grow. As the above tables show, the biggest increases were in Portsea, Landport and the Croxton Town area of what later became the northern half of Southsea. Conversely, in Old Portsmouth the population remained relatively stable. Although there was an intercensal rise of 11.2 per cent between 1821 and 1831, the town finished period one with roughly the same size population as it started with. Both Old Portsmouth and Portsea displayed identical trends in the development of private healthcare provision. Between 1824 and 1830 the numbers of doctors dipped in each town, as did their ratio to chemists, whose numbers almost doubled. Table 4.4 shows that similar trends were repeated in Landport and Southsea. When considered together (as is most appropriate given their developmental status in this period) it will be noted that while the number of doctors remained almost stable between 1824 and 1830, there was a growth in the number of chemists.

That doctors' numbers fell in Old Portsmouth and Portsea, and fell when they did, is not particularly surprising. Locally, the late 1820s and early 1830s marked the height of the 'Great Slump': the Navy cuts were complete and the dockyard workforce was at its lowest in living memory following the lay-offs of 1830. With local circumstances as they were, it follows that fewer people would have been in a position to privately employ the services of a doctor. In effect, demand in this segment of the medical market was so reduced that it forced an adjustment on the supply side. This contention is further borne out by a closer look at the doctors who were actually practising at this time.[94] In Old Portsmouth, only two of the eight doctors listed in 1830 were new to the town. The rest were well-established, with a few having been there before 1811. It was the same in Portsea, here ten of the town's twelve practitioners in 1830 had been in situation since before 1824. This low turnover of doctors points to a stagnant market. When practitioners

in either of the two towns died or left (there is no evidence of internal movement during this period), demand in this segment of the market was such that only a partial replacement of their numbers could be sustained. A look at the practitioners in Landport and Southsea suggests that it was here that new arrivals were setting-up.

Conversely, at the same time as doctors' numbers were declining in Old Portsmouth and Portsea, there was a surge in the number of chemists. Based on the notion that these providers experienced demand from the population generally, this is exactly what one would have expected to happen. Between 1821 and 1831 all four of Portsmouth's towns saw intercensal increases in excess of ten per cent. There was also a far greater turnover of chemists compared to doctors. In part, this undoubtedly reflected the intrinsic differences between the two types of providers. But it also suggests that demand in this segment of market remained buoyant, despite the economic conditions. When one chemist ceased to trade, a replacement always stepped into the gap. One might hypothesise that one of the reasons for this was that during hard times, people who would have normally used doctors may have opted (or have been forced) to use chemists instead. This is, of course, difficult to prove. But, there are some indications that just such an effect occurred during the latter part of period one. In Portsea for example, the chemists listed in 1830 included Thomas Mallory, who had previously practised as a doctor in the town. While it seems likely that he still saw private patients, it is significant that sometime between 1824 and 1830 he took the decision to be relisted as a chemist in trade directories. In Old Portsmouth, it is also notable that chemist numbers showed a further increase between 1830 and 1844, even though the census of 1841 registered an 11.7 per cent decline in the population.

The evidence from period one therefore suggests that doctors were particularly badly affected by prolonged economic downturns. It was for this very reason that they were so eager to secure state appointments or posts with friendly societies and the like, as insurance against this eventuality. While poor economic conditions prevailed, so demand for doctors in their private capacity dwindled and potentially even shifted to other segments of the market. As is demonstrated by tables 4.2 to 4.4, this produced a response on the supply side of the market in the

form of a reduction in the number of doctors. As they died or left, any slack was picked up by those who remained. This was not the only possible response. Although not observed in Portsmouth, equilibrium in the market could have also been reached by doctors reducing their prices. Either way, the implications are that in Old Portsmouth and Portsea, competition between doctors would have been fierce during this period. Indeed, the fact that so few newcomers ever lasted long enough to be listed in trade directories, along with the absence of any evidence that doctors lowered their prices, could be regarded as an indication that the established practitioners in these towns closed ranks.

Chemists on the other hand were not so badly affected. This is clear not just from the growth in their numbers, but also in the declining ratio of doctors to chemists. Despite the economic conditions, it seems that while the population continued to expand so too did demand for the healthcare products they sold. It is highly likely that the same would have applied in the demand for patent medicines. Thus, period one, reveals some of the ways in which economic downturns could impact on the development of private healthcare provision and the operation of the medical market. Although it is unlikely that these effects were unique to Portsmouth, it is important to recognise that the downtown in period one was caused primarily by the onset of peace following France's defeat. In other words, international affairs had the ability to influence healthcare in Portsmouth.

Period 2: 1844-1863

As we saw in the previous chapter, an about turn in Portsmouth's fortunes was kick-started in the early 1840s by the Admiralty's decision to embrace steam as the principle means of propulsion in Royal Navy vessels. Broadly speaking, private healthcare provision developed along the lines one might have anticipated given the buoyancy of the local economy and continued population growth. In Portsea, Landport and Southsea the numbers of chemists continued to rise. Growth was particularly strong in Landport, which was to be expected given that this town also experienced the greatest increase in population. Both Landport and Southsea also saw a rise in the numbers of doctors, although this time the strongest growth was in

Southsea. Again, this was to be expected. As has already been established, doctors tended to gravitate towards sources of demand. It was during this period that Southsea developed its cosmopolitan image and, by the 1860s, had begun to take-off as a fashionable resort. The turnover of doctors in Southsea also gives a good indication that their segment of the market was healthy. Contrary to the secondary literature, progressive overcrowding and fierce competition did not characterise the situation in this town. Increasingly, doctors who arrived tended to stay, while year-on-year new ones were added to their numbers.

There were nevertheless, two unexpected developments that require further comment. Firstly, in Old Portsmouth, the number of chemists remained virtually unchanged. Initially this appears odd, given the apparent population growth that took place in this town. However, care needs to be exercised about drawing too many conclusions from this. Numerically, Old Portsmouth's population growth was not in the order experienced elsewhere in Portsmouth. Similarly, the population figures themselves are misleading. Although it is impossible to put a figure on it, much of the increase reflected the build-up of military and naval personnel in the lead up and aftermath of the Crimean War – all of whom would have received state healthcare while on active service.[95] The second unexpected development is not so easily explained. Despite the favourable economic conditions and high levels of employment, particularly in the dockyard, the numbers of doctors practising in Old Portsmouth and Portsea fell during period two. After an initial jump in both towns, stagnation and slow decline gripped Old Portsmouth while, stranger still, there was a sharp fall in Portsea.

How then, can this be explained? The potential impact of the Medical Act 1858 is an obvious consideration. This established state registration of qualified doctors, requiring all who wished to be entered on the *Medical Register* to have either a single or double qualification in medicine and/or surgery.[96] There is, however, no evidence to connect the passing of this legislation with the fall in doctors' numbers that was experienced in either Old Portsmouth or Portsea. While it is true that there were still practitioners in both towns who had been there since the end of Napoleonic Wars and who, having gone down the apprentice route, possessed

no university qualifications, the Act made provision for such individuals. Rather than being concerned with preventing those who had trained in this recognised way from practising, it was instead aimed at regulating current and future entry to the medical profession.[97] Moreover, in both of the towns concerned, the sharpest drop in doctors' numbers occurred before 1853, which was some years before the Act was passed.

Closer scrutiny of the doctors practising in Old Portsmouth and Portsea provides more substantial answers. In Portsea, it is noticeable that a number of those who started their careers in this town finished them elsewhere in Portsmouth. The changes which occurred between 1844 and 1852 are indicative of the period as a whole. Between these dates doctors' numbers in the town declined by six. Of these, three disappeared without trace (presumably having died), two moved their practices to Southsea and one went to Landport. Interestingly, the two who moved to Southsea both ended up in Landport Terrace, which was where some of the first 'upmarket' housing in the town was built. However, the relocation of doctors to Southsea only partially explains the declining trend. In Old Portsmouth there is no evidence of such migration happening at all. Instead, the low turnover of doctors noted during period one became more pronounced. When doctors left or died, rarely did a new one set up in practice. In 1859 all eight of the town's doctors had been in situation since 1852 or before. By 1863 this situation had altered little, with only one new doctor listed. In effect, the same core group of practitioners had dominated Old Portsmouth's medical scene for most of period one and all of period two. The situation was similar in Portsea. In 1859 for example, of the eight practitioners listed, five had been in the town since 1844 and one since 1852. And, of the two newcomers, one was the son of an established doctor in the town.[98] The only difference between the doctors of Portsea and the doctors of Old Portsmouth was that the former were more mobile. It was posited earlier that a low turnover of doctors was an indication of stagnation in this segment of the market. If this is indeed the case then it suggests that something else, in addition to the Medical Act and the 'pull' of affluent Southsea was responsible for numbers falling in Old Portsmouth and Portsea. One factor which

periodically caused problems of oversupply in these towns, was the presence of naval surgeons treating civilian patients.

The situation regarding naval surgeons and private practice requires explanation. A series of acts dating back to the seventeenth century had made it possible for naval surgeons to treat private patients.[99] By the nineteenth century, a spell of wartime naval service had become an established route into general practice. Normally, naval surgeons saw private patients when they were ashore, in between periods of active duty. During these periods they also received half-pay. This acted as a retainer because, as officers, no facility existed for them to retire from the service. Effectively, they could be called up for duty at any time.[100] Up until the end of the Napoleonic Wars this system had worked reasonably well. With Britain frequently at war, it allowed the Admiralty to manage the Navy's personnel requirements and meant that periods of inactivity for officers were rarely prolonged. After 1815, this all changed. As Britain entered its longest period of peace for many centuries, large numbers of naval officers found themselves ashore and on half-pay. These periods away from active service could be very long indeed: twenty or thirty-year stretches were not uncommon.[101] This situation was not helped by the heavy recruitment that had taken place during the wars with France. Half-pay naval surgeons had been a feature of Portsmouth's medical landscape for many years. The difference was that now they were ashore long enough to establish viable private practices. This put them in direct competition with civilian practitioners.

Unfortunately, it has proved impossible to track how their numbers in Portsmouth varied according to town and over time. It is therefore difficult to accurately quantify their effect on the local medical market. What can be said though is that their impact is likely to have grown steadily from the end of period one, reaching a peak in the early years of period two. A table drawn up by Thomas Wakely for inclusion in the *Lancet*, shows that by the mid-1830s there were in excess of 540 naval surgeons on half-pay nationally, the equivalent of nearly 80 per cent of those employed.[102] Competition from naval surgeons is then likely to have lessened in the lead up to the Crimean War. The reason for this was simple: many of those on half pay were men who had originally served during the Napoleonic Wars.

Put bluntly, as each year passed, so the numbers in this aging cohort dwindled further. Indeed, by the outbreak of the Crimean War the deficit of naval surgeons was so acute that panic recruiting measures were introduced. Sir William Burnett, Director of the Royal Navy's Medical Department, even attempted to entice young men to the service from the ranks of patriotic medical students by creating a class below surgeons known as 'medical dressers'.[103]

With the recruitment for the Crimean War and the inevitable reductions that followed its conclusion, competition from half-pay surgeons re-asserted itself as a problem locally after 1856. In fact, the pressure was so great that in April 1860 a delegation of civilian practitioners from Portsmouth and Gosport wrote to the Director-General of the Navy calling on him to end half pay to surgeons altogether.[104] Half pay, they claimed, gave naval surgeons an unfair commercial advantage, enabling them to: 'live in a style and dash that generally ensure success'. It also irked them that, as tax payers, they were effectively funding this benefit. Of the twelve doctors from Portsmouth who signed the letter, those from Old Portsmouth and Portsea were disproportionately represented, accounting for exactly half of the names on the list. This gives a clear indication that it was in these two towns that the presence of naval surgeons had the greatest effect. Within a few years of the letter, the situation had, however, resolved itself. By the mid-1860s the cohort of naval surgeons from the Napoleonic Wars were almost all dead. In addition, the Order in Council of 13th May 1859, finally introduced retirement for surgeons. Although this did not put a stop to half pay, it meant that by the end of period two naval surgeons once again spent most of their time on active duty.[105]

So far, all the factors considered contributed in a general way to the decline in doctors' numbers. On their own, they do not adequately explain the sudden dip that was experienced in Portsea. As we know, Portsea's fortunes reflected those of the dockyard. Consequently, with high levels of activity in the yard re-energising the local economy, one might have expected doctors' numbers in the town to rise instead of fall. Herein lies the answer. For, although high dockyard employment certainly put money in people's pockets, it also meant that a sizeable proportion of the local population immediately became eligible for the free state healthcare that was

provided to all dockworkers. Indeed, there is a remarkable correlation between the increase in the dockyard workforce after 1844 and the sudden fall in doctors' numbers in the town. During period one, they had declined in Portsea as a result of the economic downturn. During period two this decline continued, not because people were necessarily unable to afford private doctors, but because instead, they had less need to employ them. Essentially, the dockyard was preventing demand from reaching some segments of the market. In turn, it was shaping the development and operation of private provision in both Portsea and, more widely, in Portsmouth as a whole. Where doctors were concerned, the dockyard was contributing to a fragmentation of their segment of the market. In the previous period it had been possible to think of 'Portsmouth's medical market' in collective terms. From the 1850s onwards understanding it in this way becomes increasingly problematic. For doctors at least, it is more appropriate to think of four different markets, one in each town. As Portsea shows, external influences affected each of these markets in different ways and to varying degrees. But, because they were also closely linked, what happened in one had repercussions for the way healthcare provision developed in the others.

Period 3: 1864-1881

The sight of redundant dockworkers boarding ships in 1868 for a new life in Canada proved to be a temporary hiccup rather than a bad omen.[106] By 1881 the dockyard's 'Great Extension' was complete and its workforce had increased to 6,300. For the first time in the century, population growth was largely confined to Landport and, to a lesser degree, Southsea. The latter also became firmly established during this period as a favourite with affluent holidaymakers. Conversely, in Old Portsmouth and Portsea, decline set in.

Tables 4.2 – 4.4 show that the trends observed during earlier periods carried on in much the same way. Landport and Southsea both saw increases in the numbers of chemists and doctors. In Portsea, continued high levels of employment in the dockyard had the expected effect on doctors, whose numbers fell still further. Population decline in the town also coincided with a drop in the numbers of

chemists, reinforcing the conclusions that have been reached about demand and these providers. The situation was similarly bleak in Old Portsmouth. Here, the stagnation of period two was replaced by outright decline. Doctors' numbers fell abruptly and so too did chemists', again in line with a falling population.

As before, tracking the careers of Portsmouth's doctors helps to build a more comprehensive picture of what was going on in local medical markets. In Portsea and Old Portsmouth, the same patterns of the previous periods were repeated: when a doctor died or left he was rarely replaced. Additionally, the migration of practitioners to Southsea now became a feature of both towns, whereas previously it had only applied to Portsea. In Southsea things were the complete opposite. In this town, there were no signs of overcrowding on the supply side. Doctors tended to stay for long periods, and each year new arrivals were accommodated without any obvious problems. The situation in 1879 illustrates this point well. Of the twenty-seven doctors in the town: four had been in situation since the 1850s; five since the early 1860s; at least two had moved from Old Portsmouth and Portsea; while the remaining sixteen had all arrived sometime after 1865. Rather than suggesting over-supply, these figures indicate that demand was still expanding. They also demonstrate how the medical market in one town could impact on the development of private provision in others. Southsea contributed to the decline of doctors in Old Portsmouth and Portsea in two ways. Firstly, it pulled existing practitioners away from these towns. Secondly, it acted as a magnet for newcomers. As we know from Doyle's experiences, Southsea was a much more attractive option to doctors than anywhere else in Portsmouth around this time. The story in Landport was different again. Perhaps because its urban characteristics resembled towns more generally in the nineteenth century (as opposed to a naval port, dockyard town and fashionable holiday resort) its turnover of doctors suggests a situation more in keeping with the historiography. Doctors in this town came and went, with few staying long in comparison to their colleagues in the other three towns. Moreover, judging by the dates of their qualifications, many of these doctors were relatively new to the profession. In 1879 for example, only one of the doctors had been in residence since 1865. The other eleven were all new arrivals, at least seven of whom had qualified in

the last three to five years. This all points to a tough market, where competition was fierce and survival was by no means a certainty. As is very evident, the conditions doctors faced varied considerably according to town.

A closer examination of Portsmouth's chemists is also enlightening. Broadly speaking, their turnover matches what one might have expected. Where there was growth, this occurred through new businesses setting up while existing ones continued to trade. Where there was decline, existing businesses simply ceased to trade and were rarely replaced. There was, however, at least one indication that competition between chemists was intensifying generally. This of course roughly coincides with the explosion in advertising that was mentioned earlier in the chapter. During period three it first becomes noticeable that chemists from all four towns were beginning to diversify their businesses. This either meant selling additional commodities such as tea, tobacco and perfume or, alternatively, it involved taking on some other form of medical activity. The latter tended to be dentistry, although examples were found of chemists offering veterinary services and acting as outlets for medical glass bottles and drugs sundries. These findings mirror those of Marland in her study of Wakefield and Huddersfield.[107]

Period 4: 1882-1899

During the last decades of the nineteenth century, Britain's fears about France began to recede. By now, other developments on the international scene were becoming more of a concern. The Naval Defence Act became law in May 1889. In addition to establishing the famous 'Two-Power Standard', this act also ensured that the dockyard remained busy into Edwardian times and beyond.[108] By 1901, its workforce stood at almost 8,000.[109] There was similarly no let-up in Portsmouth's urban expansion. By the end of the century its sprawl had encompassed most of Portsea Island and the boundaries of the four towns had become indistinct. Growth remained centred on Landport and northern Southsea. Affluent Southsea, with its spatial expansion halted by the sea, effectively reached the extent of its growth in this period. In population terms, the decline of Old Portsmouth and Portsea continued.

As we know, the geographical distribution of private provision in Portsmouth underwent a degree of levelling-out in this period. Tables 4.2 – 4.4 show this effect too. In Landport the number of doctors grew considerably and at a much faster rate than chemists, as is evident from the turnabout in their ratio to these providers. In Southsea there was a big jump in the numbers of both doctors and chemists. However, unlike previously, doctors did not remain ensconced in the town's affluent southern half. Instead, as was revealed in the previous chapter, they began to populate its labouring-class northern areas as well. Three of Southsea's doctors also opened surgeries in other parts of Portsmouth: two in Landport and one in Portsea. The growth in doctors' numbers generally and the changes in their geographical distribution, all point to an opening up of this segment of the market. By the last decade of the century, doctors' had clearly begun to directly target labouring-class areas for professional expansion. Although affluent Southsea had initially delayed this happening, putting the chronology of healthcare development in Portsmouth out of kilter with the secondary literature, the situation was rectified almost as soon as this part of Southsea ran out of space to expand.

Other subtle changes in relation to doctors suggest that the fragmentation of the market which took place during period two was also finally coming to an end. As the boundaries between the four towns dissipated, what had once amounted to four different markets merged into one again. In Southsea for example, the proportion of existing doctors to new doctors changed markedly in favour of the latter. This brought Southsea more into line with Landport's experience. Whereas in period three between 40 and 60 per cent of those practising in Southsea had been established for at least five years, by 1896 this figure had fallen to just 23 per cent. In Landport the figure stood at 19 per cent. Indeed, Doctor Doyle left Southsea during period four after eight years in practice because, no matter what he did, he was unable to increase his income beyond the level reached in his third year (1885).[110] There were also indications that competition between doctors intensified generally and not just in particular towns. By 1896 there were more doctors working in partnership across Portsmouth than had ever been the case before.[111] In 1852 the number of partnerships in existence reduced from three to two. By 1879 there were

none operating at all. Yet, by 1896 seven new ones had formed. Partnerships of course meant shared premises and shared staff, which in turn reduced operating costs. In other words the kind of business rationalisation usually prompted by tough market conditions was taking place.

A closer look at chemists also supports the notion that competition in Portsmouth's medical market intensified towards the very end of the century. In addition to the diversification of their activities that was noted in period three, chemists also began to form firms and partnerships. Previously, their numbers had increased almost exclusively through individuals starting up. In period four however, a sizeable proportion of growth came from existing businesses combining and then using the economic benefits to open new branches. Although it cannot be proven, there are indications that smaller concerns were finding trading conditions particularly difficult. In 1879, Portsmouth's 65 chemists' outlets were shared between 61 businesses. By 1896, Portsmouth's 88 outlets were shared between 62 businesses. One way to look at this is that chains of chemists had made significant in-roads on the high street, at the expense of sole traders.

4.3: Conclusion

Doctors and chemists, though certainly the most visible in the historical record, were by no means the only players in Portsmouth's medical market. As the advertisements in newspapers show, mail-order vendors of patent medicines and even booksellers had a stake. So too did a whole range of unorthodox practitioners; from the travelling quacks that graced the Free Mart Fair, through to those who operated out of high street premises and in all respects behaved like any other legitimate business. Naval surgeons also happily treated private patients. Periodically their presence was so considerable that it brought them into open conflict with their civilian counterparts. Although the focus of this chapter may have been on doctors and chemists, a key point to emerge from it is that Portsmouth's medical market was multi-layered.

Chemists' commercial behaviour was found to confirm the conclusions that were reached about these providers from their geographical location and distribution. They advertised widely and frequently and, furthermore, pitched the prices of their products at a level which made them affordable generally. Although evidence of the specific targeting of groups in society was found, this does not detract from the argument that chemists were essentially mass-market businesses. The existence of a simple market relationship between provider and consumer is underlined by the manner in which chemists' numbers responded to changes in the population. When the population increased, chemists' numbers did the same. Conversely, when the population fell – as it did in Portsea after 1870, so too did the number of chemists.

The case study of Doctor Doyle reiterated the reasons behind the uneven geographical distribution of orthodox practitioners in Portsmouth. Most importantly for our broader understanding of this segment of the market, it clearly showed that while the individual healthcare needs of the affluent translated easily into market demand, the same was not true for the labouring classes. Instead, this group were most effective as a market force when they acted collectively. But, in doing so, they relinquished a considerable degree of consumer power at an individual level. As we saw, it was only right at the end of the century that this segment of the market began to open up to people generally. As soon as the growth of affluent Southsea started to subside, so doctors began to directly target Portsmouth's labouring-class districts for professional expansion. If we exclude access via collective means, then one conclusion is that locally at least, the bottom-end of this segment of the medical market was much smaller than the historiography allows. In turn this suggests that in Portsmouth, the state and charitable sectors were very prominent in the overall mix of healthcare provision that was on offer.

Exploring the chronology of the market in the context of Portsmouth's broader history helped to reveal many of the external factors that shaped the development of private provision in each town, along with some of the imperfections that had a distorting effect on market operation. These included: war and the threat of war; peace; economic downturns and upturns; changes in naval

policy; improvements to the communications infrastructure; tourism. Moreover, it is evident from both the historical geography and the behaviour of providers that these factors all exerted different influences in different towns at different times. So much so, that between 1844 and 1882 it is more appropriate to think of separate, yet closely-linked medical markets operating in Portsmouth. Certainly the mix of private provision varied considerably between the four towns and not just in numerical terms. The character of the healthcare offering differed greatly as well. As the turnover of providers shows, Southsea not only attracted new doctors, but also retained a cadre of well-established and experienced practitioners. Conversely in Landport, those that came tended to be newly qualified and generally did not stay long before moving on. Old Portsmouth and Portsea on the other hand were doctored by experienced, but increasingly aged practitioners. Periodically up until the 1860s these two towns were also host to many half-pay naval surgeons.

This leads us to the generalisations that historians often make about over-supply and fierce competition in the nineteenth-century medical market. As the analysis has shown, Portsmouth does not sit comfortably with the existing historiography. Although both phenomenon occurred, they asserted themselves periodically rather than progressively. The principle reason for this was affluent Southsea. While this part of Portsmouth continued to grow, there was always a vent in the market. Only in the last decades of the century did this avenue for market adjustments begin to close.

Finally, and most importantly, there was the dockyard. Its ability to shape the development of private provision, both within its immediate vicinity and more widely in Portsmouth was dramatically demonstrated by the destructive effect it had on doctors in Portsea after 1844. The influence of the dockyard (along with the growth of Southsea) are central to understanding why healthcare provision in Portsmouth developed in the way it did. Fundamentally, we are talking about a relationship between two parallel systems of provision: one state, one private. This relationship was complex and changed over time. It is for this reason that health, healthcare and the dockyard are studied in depth in the next chapter.

[1] A. Digby, *Making a Medical Living: Doctors and Patients in the English Market For Medicine, 1720-1911* (Cambridge: Cambridge University Press, 1994), p. 28.

[2] I. Loudon, 'A Doctor's Cash Book: The Economy of General Practice in the 1830s', *Medical History*, 27 (1983), 249-268, (pp. 261-267).

[3] J. Stobart, *Spend Spend Spend: A History of Shopping* (Stroud: The History Press, 2008), pp. 68-71.

[4] Digby, *Making a Medical Living*, pp. 119- 120 & 171; I. Loudon, *Medical Care and the General Practitioner, 1750-1850* (Oxford: Clarendon, 1986), p. 239.

[5] P. S. Brown, 'Medicines Advertised in Eighteenth-Century Bath Newspapers', *Medical History*, 20 (1976), 152-168.

[6] L. Brown, 'The Growth of a National Press' in *Investigating Victorian Journalism*, ed. by L. Brake and A. Jones (London: Macmillan, 1990), pp. 133-140.

[7] A good general survey on advertising in Britain is provided by: T. R. Nevett, *Advertising in Britain: A History* (London: Heinemann, 1982). See also: B. B. Elliott, *A History of English Advertising* (London: Batsford, 1962); D. Hindley and G. Hindley, *Advertising in Victorian England, 1837-1901* (London: Wayland, 1972).

[8] The use of trade cards has been the subject of recent historical attention: M. Berg and H. Clifford, 'Selling Consumption in the Eighteenth Century: Advertising and the Trade Card in Britain and France', *Cultural & Social History*, 4 (2007), 145 –170.

[9] Stobart, *Spend, Spend, Spend*, p. 91.

[10] It is only possible to talk about newspaper readership in general terms. A single newspaper purchased could be read by many people. However, what can be said is that the number of newspaper titles published and the numbers of newspapers sold rose steadily from the eighteenth century: Nevett, *Advertising in Britain*, pp. 16-17.

[11] This was detailed in an advertisement that the *Evening News* placed in *Chamberlain's Directory of Portsmouth*, 1879.

[12] During the first half of the nineteenth century stamp duty was levied on each printed sheet in newspapers. One consequence of this was that newspaper proprietors limited advertising space and were less inclined to accept 'picture' advertisements. In 1853 taxes on advertising were reduced. They were then abolished in 1861. This led to a proliferation in advertisements, with many newspapers becoming heavily reliant on advertising revenue: Nevett, *Advertising in Britain*, pp. 40-52; P. Schuwer, *History of Advertising* (London: Leisure Arts, 1966), p. 63.

[13] A small sample of local newspapers were looked at on a biannual basis, throughout the period 1800 to 1890.

[14] *Portsmouth Telegraph*, 23 Feb 1801. There is a growing literature on medical advice books, treatments published in periodicals and almanacs. Much of this focuses on the eighteenth century: L. H. Curth, 'The Commercialisation of Medicine in the Popular Press: English Almanacs 1640-1700', *Seventeenth Century*, 17 (2002), 48-69; L. H. Curth, 'Medical Advertising in the Popular Press: Almanacs and the Growth of Proprietary Medicines', *Pharmacy in History*, 50 (2008), 3-16; M. E. Fissell, 'The Marketplace of Print', in *Medicine and the Market in England and Its Colonies, c. 1450-c. 1850*, ed. by M. S. R. Jenner and P. Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 108-132; R. Porter, 'Lay Medical Knowledge in the Eighteenth Century: The *Gentleman's Magazine*', *Medical History*, 29 (1985), 138-168; G. Smith, 'Prescribing the Rules of Health: Self-Help and Advice in the

Late Eighteenth Century', in *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, ed. by R. Porter (Cambridge: Cambridge University Press, 1985), pp. 249-282, (pp. 250-256).

[15] Later advertisements in the sample showed a tendency to be larger in size, but in format and content there was no significant change across the century. Although the subject of medical advertisements remains under-researched, it appears that there was also a good degree of continuity with the eighteenth-century: Brown, 'Medicines Advertised', pp. 353-356; H. Marland, 'The Medical Activities of Mid-Nineteenth-Century Chemists and Druggists, With Special Reference to Wakefield and Huddersfield', *Medical History*, 31 (1987), 415-439, (pp. 429-435); R. Porter, *Quack, Fakers and Charlatans in English Medicine* (Stroud: Tempus, 2000), pp. 89-114.

[16] An example of this advertisement can be found in: *Portsmouth Times and Naval Gazette*, 30 March 1850.

[17] Marland, 'The Medical Activities', pp. 433-435.

[18] The issue of networks between providers is discussed in: S. King, 'Accessing Drugs in the Eighteenth-Century Regions', in *From Physick to Pharmacology*, ed. by L. H. Curth (Aldershot: Ashgate, 2006), pp. 49-78, (pp. 64-69).

[19] S. King, *A Fylde Country Practice: Medicine and Society in Lancashire, circa 1760-1840* (Lancaster: Centre for North-West Studies, 2001), pp. 41-46.

[20] *Portsmouth Telegraph*, 21 January 1811; *Southsea Observer*, 7 April 1876.

[21] Marland, 'The Medical Activities', p. 439.

[22] P. S. Brown, 'The Vendors of Medicines Advertised in Eighteenth-Century Bath Newspapers', *Medical History*, 19 (1975), 352-369, (p. 356).

[23] King, *A Fylde Country Practice*, p. 43.

[24] For a recent volume dealing with this see: A. Wild, *Medicine-by-Post: The Changing Voice of Illness in Eighteenth-Century British Consultation Letters and Literature*, The Wellcome Series in the History of Medicine, 79 (Amsterdam: Rodopi, 2006). Although the literature emphasises the practice as common in the eighteenth century, evidence from the papers of a Southsea doctor suggests that postal consultations continued well into the nineteenth century: J. Lellenberg, D. Stashower, and C. Foley, eds., *Arthur Conan Doyle: A Life in Letters* (London: HarperPress, 2007), p. 193.

[25] Women as the specific targets of advertising in the nineteenth century is dealt with by: L. A. Loeb, *Consuming Angels: Advertising and Victorian Women* (Oxford: Oxford University Press, 1994).

[26] *Portsmouth Times and Naval Gazette*, 16 August 1890.

[27] *Portsmouth Times and Naval Gazette*, 30 March 1850; *Hampshire Telegraph*, 30 March 1850.

[28] *The Hampshire Telegraph*, 4 March 1876.

[29] Marland, 'The Medical Activities', pp. 433-439.

[30] Digby, *Making a Medical Living*, p. 155-162.

[31] Marland, 'The Medical Activities', p. 429; King, *A Fylde Country Practice*, pp. 33-65.

[32] Brown made similar observations about Bristol: P. S. Brown, 'The Providers of Medical Treatment in Mid-Nineteenth-Century Bristol', *Medical History*, 24 (1980), 297-314, (p. 304).

[33] Stobart, *Spend, Spend, Spend*, p. 91.

[34] This directory is available online at: Historical Directories, A Leicester University Project, <http://www.historicaldirectories.org/hd/pgnn.asp.> [accessed 29 September 2008]. In 1858 labourers wages at the dockyard were increased from 13/- to 14/- per week: *City of Portsmouth Corporation Records: 1835-1927* ed. by W. G. Gates (Portsmouth: Charpentier, 1928), p. 85.

[35] Marland, 'The Medical Activities', p. 437.

[36] Digby, *Making a Medical Living*, pp. 175-176.

[37] A. Digby, *The Evolution of British General Practice 1850-1948* (Oxford: Oxford University Press, 1999), pp. 99-100.

[38] This was not necessarily the case elsewhere: R. G. Smith, 'The Development of Ethical Guidance For Medical Practitioners by the General Medical Council', *Medical History*, 37 (1993), 56-67, (p. 59).

[39] *Portsmouth Times and Naval Gazette*, 27 February 1864.

[40] *History, Gazetteer & Directory of Hampshire, 1859; London & Provincial Medical Directory, 1863.*

[41] *Harrod's Postal and Commercial Directory for Hampshire, 1865.*

[42] Quoted in: J. Webb, 'Portsmouth Free Mart Fair: The Last Phase 1800-1847', *The Portsmouth Papers*, 35 (1982), 3-22, (p. 10).

[43] Porter, *Quack, Fakers and Charlatans* p. 65; see also R. M. Ross, 'Sequah': Crown Prince of Charlatans' extract from 'The Development of Dentistry: A Scottish Perspective c. 1800-1921 (Unpublished PhD Thesis, University of Glasgow, 1995), available from: History of Dentistry Research Group, http://www.rcpsglasg.ac.uk/hdrg/2003April2.htm [accessed: 20 August 2005].

[44] Brown, 'The Providers', pp. 302-303.

[45] There is general agreement on this point: *Medical Fringe and Medical Orthodoxy 1750-1850*, ed. by W. F. Bynum and R. Porter (London: Croom Helm, 1987). For recent research on the subject, specifically focused on the nineteenth century see: O. Davies, 'Cunning Folk in the Medical Market Place During the Nineteenth Century', *Medical History*, 43 (1999), 55-74; O. Davies, 'Female Healers in Nineteenth-Century England', in *Women's Work in Industrial England: Regional and Local Perspectives*, ed. by N. Goose (Hatfield: Local Population Studies, 2007), pp.228-249.

[46] A. C. Doyle, *Memories and Adventures: Oxford Letters and Memoirs* (London: Hodder and Stoughton, 1924; repr. Oxford: Oxford University Press, 1989), p. 70.

[47] Case studies of doctors is an established tradition in medical history. Although having gone out of fashion recently, they still have much to offer. The work of Joan Lane and Irvine Loudon stands out: J. Lane, 'A Provincial Surgeon and His Obstetric Practice: Thomas W. Jones of Henley-in-Arden, 1764-1846', *Medical History*, 31 (1987), 333-348; J. Lane, 'Eighteenth-Century Medical Practice: A Case Study of Bradford Wilmer, Surgeon of Coventry, 1737-1813', *Social History of Medicine*, 3 (1990), 369-386; J. Lane, 'Thomas Mister of Shipston (1711-80)', *Medical History*, 40 (1996), 365-372; I. Loudon, 'A Doctor's Cash Book: The Economy of General Practice in the 1830s', *Medical*

History, 27 (1983), 249-268; I. Loudon, 'The Nature of Provincial Medical Practice in Eighteenth-Century England', *Medical History*, 29 (1985), 1-32.

[48]Doyle, *Memories and Adventures*, pp. 7-13; Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, p. 3.

[49] Doyle, *Memories and Adventures*, p. 13.

[50] A. E. Rodin & J. D. Key, *Medical Casebook of Doctor Arthur Conan Doyle: From Practitioner to Sherlock Holmes and Beyond* (Malabar, FL: Krieger, 1984), p. 19.

[51] Rodin & Key, *Medical Casebook*, p. 4.

[52] Rodin & Key, *Medical Casebook*, p. xviii.

[53] Doyle, *Memories and Adventures*, pp. 27-29.

[54] Doyle, *Memories and Adventures*, pp. 34-35.

[55] Doyle, *Memories and Adventures*, pp. 47-48.

[56] Doyle, *Memories and Adventures*, p. 60.

[57] Doyle, *Memories and Adventures*, p. 60.

[58] Doyle, *Memories and Adventures*, p. 62.

[59] Doyle, *Memories and Adventures*, p. 62.

[60] A. C. Doyle, *The Stark Munro Letters: Being a Series of Twelve Letters Written by J. Stark Munro, M.B. to His Friend and Former Fellow-Student, Herbert Swanborough, of Lowell Massachusetts, During the Years 1881-1884* (London: John Murray, 1923: repr. Digireads.com, 2004), p. 91.

[61] Digby notes that to be able to state a practice was 'unopposed' was a prime selling point in advertisements of practices for sale: Digby, *Making a Medical Living*, pp. 110-111.

[62] Digby, *The Evolution*, p. 109.

[63] Doyle, *Memories and Adventures*, p. 65.

[64] G. Stavert, *A Study in Southsea From Bush Villas to Baker Street: The Unrevealed Life of Doctor Arthur Conan Doyle The Creator of Sherlock Holmes* (Portsmouth: Milestone, 1987), p. 19.

[65] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, p. 166.

[66] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, p. 166.

[67] Doyle, *Stark Munro Letters*, p. 115.

[68] Doyle, *Stark Munro Letters*, p. 110.

[69] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, pp. 175-176; *London & Provincial Medical Directory, 1879.*

[70] Stavert, *A Study in Southsea*, p. 34.

[71] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, pp. 175-176.

[72] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, p. 179.

[73] *Hampshire Chronicle*, 17 September 1825; Ship launches frequently resulted in injuries being sustained by the general public: M. Lincoln, 'Naval Ship Launches as Public Spectacle 1773-1854', *Mariner's Mirror*, 83 (1997), 466-472.

[74] Doyle, *Stark Munro Letters*, p. 123.

[75] Stavert, *A Study in Southsea*, p. 33. Digby suggests that good professional contacts were an important element to establishing a viable practice: Digby, *Making a Medical Living*, p. 175.

[76] On the development of such societies see: P. Clark, *British Clubs and Societies, 1580-1800: The Origins of an Associated World* (Oxford: Clarendon Press, 2000). Doctors also formed their own clubs and medical societies: M. Brown, 'From Doctors' Club to the Medical Society: Medicine, Gentility and Social Space in York, 1740-1840', in *Eighteenth-Century York: Culture, Space and Society*, ed. by M. Hallet and J. Rendall (York: Borthwick Publications, 2003), pp. 59-69; I. Loudon, 'Medical Education and Medical Reform', in *The History of Medical Education in Britain*, ed. by V. Hutton and R. Porter, The Wellcome Series in the History of Medicine, 30 (Amsterdam: Rodopi, 1995), pp. 229-249.

[77] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, p. 203.

[78] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, p. 209.

[79] Stavert, *A Study in Southsea*, pp. 41-46.

[80] *London & Provincial Medical Directory, 1852.*

[81] Stavert, *A Study in Southsea*, p. 49.

[82] Stavert, *A Study in Southsea*, p. 59.

[83] Digby, *Making a Medical Living*, pp. 148-169.

[84] Doyle, *Memories and Adventures*, pp. 68-69.

[85] I. Loudon, 'Doctors and Their Transport, 1750-1914', *Medical History*, 45 (2001), 185-206, (p. 186).

[86] Stavert, *A Study in Southsea*, p. 63.

[87] Doyle, *Memories and Adventures*, pp. 70-71.

[88] Doyle, *Memories and Adventures*, pp. 67-68.

[89] Lellenberg, Stashower and Foley, *Arthur Conan Doyle: A Life in Letters*, pp. 180-181.

[90] Digby, *Making a Medical Living*, pp. 122-123; Digby, *The Evolution*, pp. 103-104.

[91] *The London & Provincial Medical Directory, 1879*; *Chamberlain's Directory of Portsmouth, 1879.*

[92] Digby, *The Evolution*, p. 109.

[93] H. Marland, *Medicine and Society in Wakefield and Huddersfield 1780-1870:1780-1870* (Cambridge: Cambridge University Press, 1987), p. 239 & p. 257. Digby also calculates ratios of orthodox practitioners to the population, charting these on a county by county basis for the years 1783, 1861 and 1911. A meaningful comparison with Digby's figures is not, however, possible. The presence of large numbers of service personnel in Portsmouth not only skews the census figures but has an obvious impact on the ratio of practitioners to population, given that active servicemen received healthcare via the state. Digby's data also includes practitioners employed exclusively in the state and charitable sector. See Digby, *Making a Medical Living*, p. 22.

[94] The discussion concerning the turnover of doctors and chemists in this section (pp. 129-144) is based on data extracted from trade directories and *The London & Provincial Medical Directory*. This was inputted to a database and then interrogated accordingly to track the movement of providers across Portsmouth. All trade directories listed in the main bibliography were used.

[95] B. Stapleton, 'The Population of the Portsmouth Region' , in *The Portsmouth Region*, ed. by B. Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 72-82 (p. 105).

[96] Digby, *Making a Medical Living*, p. 31.

[97] Although the Medical Act 1858 was a key piece of legislation in the development of the modern medical profession, it failed to regulate chemists and druggists and to outlaw quackery: Loudon, *Medical Care*, pp. 193-194.

[98] Self-recruitment was fairly common: N. Parry and J. Parry, *The Rise of the Medical Profession: A Collective Study of Social Mobility* (London: Croom Helm, 1976), p. 132.

[99] N. A. M. Rodger, *The Command of the Ocean* (London: Penguin, 2005), pp. 51-52.

[100] On the issue of Royal Navy officer recruitment, pay and retirement during this period see: M. Lewis, *The Navy in Transition: A Social History, 1814-1864* (London: Hodder and Stoughton, 1965), in particular, parts two and three.

[101] Lewis, *The Navy in Transition*, pp. 113-127; C. Lloyd and J. L. S. Coulter, *Medicine and the Navy, 1815-1900*, 4 vols (London: Livingstone, 1961), IV, 15.

[102] Lloyd and Coulter, *Medicine and the Navy*, pp. 14-15. This table was constructed in support of a long campaign fought by Wakely and others to achieve parity between naval surgeons and their army counterparts.

[103] Lloyd and Coulter, *Medicine and the Navy*, pp. 6-7 & 17.

[104] *The Lancet*, 28th April 1860, p. 432.

[105] Lloyd and Coulter, *Medicine and the Navy*, p. 7.

[106] The Whig government under Lord Russell imposed drastic cuts on defence spending. Portsmouth Dockyard was one of many military and naval installations to be affected: J. Field, 'Portsmouth Dockyard and its Workers 1815-1875', *The Portsmouth Papers*, 64 (1994), 3-22 (pp. 17-18); P. Baigent and R. Ruegg, 'Pauperism or Emigration? Case Studies of Publicly-Backed Emigration Schemes in Woolwich, Kent, 1857 and 1869-70', *Family and Community History*, 1 (2007), 19-33.

[107] Marland, 'The Medical Activities', p. 420.

[108] E. J. Grove, *The Royal Navy Since 1815* (Basingstoke: Palgrave Macmillan, 2005), pp. 75-77.

[109] R. Riley, 'The Industries of Portsmouth in the Nineteenth Century', *The Portsmouth Papers*, 25 (1976), 3-22 (p. 9).

[110] Doyle, *Memories and Adventures*, p. 70.

[111] The trend towards the formation of partnerships within Portsmouth is at the latter end of the chronology provided by Digby in: *The Evolution*, p. 131.

Chapter Five

Health and the Royal Dockyard

By now, the centrality of the dockyard to Portsmouth's development should be readily apparent. During the Napoleonic Wars it provoked widespread in-migration to Portsea Island, leading to the consolidation of Landport and Southsea as separate towns.[1] Following this, it was at the forefront of building and maintaining the Victorian steam navy. During the nineteenth century it underwent two major extensions and came to occupy a 261-acre site.[2] By 1901 its civilian workforce had reached almost 8,000 men and boys, most of whom where drawn from Portsmouth's four towns (especially Portsea) and from neighbouring Gosport.[3] As a result, the dockyard governed local prosperity. The Admiralty's policy of self sufficiency in the dockyards, combined with its control of much of Portsmouth's shoreline, also determined which local industries flourished and which struggled. Indirectly, the dockyard stifled Portsmouth's growth as a commercial port.[4] Partly because of this, and the limited opportunities for dockyard supply contracts, capital accumulation was slow, with the characteristic emergence of an incipient middle-class less pronounced in Portsmouth than in other industrial towns.[5] Finally, as we have seen, the dockyard's influence can be detected in the development of Portsmouth's medical market.

This chapter has three central aims. Firstly, to provide a comprehensive picture of the healthcare available to dockworkers via the dockyard. Secondly, to look at the issue of occupational ill health amongst dockworkers. As was set out in chapter one, occupational ill health is taken to comprise work-related injuries as well as more general forms of sickness, including industrial diseases. Here, the concern is to both evaluate the amount of occupational ill health that was generated by the dockyard and its work and to examine how the Admiralty and the dockyard's medical officers responded to it. This second aim ties in closely with the third, which is to examine how the nature of occupational ill health was affected by changes in

naval shipbuilding. As these aims suggest, the discussion focuses almost exclusively on the dockyard. This is not to say that the dockyard was in some way cocooned from the rest of Portsmouth; as the opening remarks make clear, this was patently not the case. Rather, it reflects the size of the subject matter and the need to cover this in detail prior to analysing its wider import in chapter six.

5.1: Healthcare Provision

Many contemporaries perceived the Royal Dockyards as inefficient and wasteful of public money. Visitors to Portsmouth Dockyard, while amazed at what they saw, were often critical of the slow and leisurely way in which the men appeared to go about their duties. Many believed that the lack of a profit incentive was responsible for this apparently lazy attitude to work.[6] While there may have been some truth in these claims, the people making them had failed to appreciate that naval shipbuilding, along with its related activities (e.g. refitting, decommissioning etc.), were highly skilled and potentially dangerous jobs. To rush would have jeopardised quality as well as risking the health of those involved through unnecessary accidents and work-related injuries. Environmental considerations also dictated the pace of the work. The presence of thousands of people working in close proximity to deep water, precipitous dry docks and highly-combustible materials, along with the movement of heavy loads across the site and a myriad of other similar factors, all made the dockyard a hazardous place to work in. Fortunately, the Admiralty were well aware of the health risks associated with the dockyard and its work. Reference to the provision of a surgeon at Portsmouth Dockyard can be traced back at least as far as the Commonwealth period. From 1665 it is known that this officer received a house situated within the dockyard as part of his remuneration.[7] By the nineteenth century, this healthcare provision had expanded somewhat. The 'Medical Department' as it was referred to after 1826 was, for most of the century, staffed by a surgeon, an assistant surgeon or assisting surgeon, and a runner.[8] The latter was employed to 'convey messages to various parts of the yard... and in sending medicines procured by the medical officers to the several residences when required'.[9]

Staff Qualifications and Experience

Although dockyard surgeons appeared in the *Navy Lists* as naval surgeons, they were technically yard officers. This made it possible to appoint a civilian practitioner. In practice though, it was normal for the post to be filled directly from the navy.[10] As far as can be ascertained, this applied to all those who served at Portsmouth during the period. This is helpful as it allows an accurate assessment to be made of the qualifications and experience of typical post-holders. We can also begin to see what set them apart from many of the orthodox practitioners in Portsmouth's medical market.

Up until 1824 the Royal College of Surgeons in London exercised the sole right of examining potential entrants to the Royal Navy. After this date the Admiralty changed the regulations and began to accept a certificate of competence from any one of the Royal Colleges of Surgeons in England, Edinburgh and Dublin, or from the Faculty of Physicians and Surgeons of Glasgow. Further changes were made after the Medical Act of 1858. From this date, any qualification issued by one of the 20 bodies prescribed in the act was deemed acceptable. Candidates also had to pass a further examination organised by the Admiralty. This endeavoured to cover all the necessary branches of 'Medicine and Surgery...in the Navy Medical Service'.[11] As Lloyd and Coulter observe, such requirements imply that before entering the service a surgeon needed to have studied anatomy, surgery, materia medica and military surgery in addition to attending lectures on chemistry, botany and even midwifery.[12] Successful candidates would then enter the service as assistant surgeons. Despite their education and qualifications, this was a lowly rank, accorded very little status in the navy. In comparison to his counterparts in other branches of the military, the assistant surgeon was badly paid, had poor promotion prospects and whilst onboard ship often had to endure appalling conditions where he was just another inhabitant of the midshipmen's mess. This had consequences for recruitment and saddled the Royal Navy with a lasting (and largely unfair) reputation for attracting only the dregs of the medical profession.[13]

An individual was permitted to try to pass for surgeon if he had served a minimum of three years as an assistant surgeon and was between 20 and 26 years

old.[14] Successful candidates then became eligible for promotion to this rank as and when a position became available. Bearing in mind the issues that were highlighted in the previous chapter concerning retirement in the navy, before 1865 the wait between passing for a surgeon and actually attaining the rank could be prolonged. In order to pass for a surgeon, the applicant had to provide the following: a certificate of morality from either a clergyman or magistrate; proof that he had held a pharmaceutical post for at least six months; evidence that he had spent at least eighteen months in a hospital, gaining experience of operations.[15] In addition, he had to undergo a further examination as directed by the Lords Commissioners of the Admiralty. The Royal College of Surgeons maintained involvement in these until 1866, after which they became solely an internal affair conducted by the Medical Department of the Navy.[16] There is evidence that these examinations were perfunctory in their nature.[17] But, even allowing for this and the navy's reputation for attracting practitioners of dubious ability, the other requirements for promotion (as opposed to entry to the service) acted as a good quality control.

Tracing the careers of men prior to their appointment at Portsmouth confirms this view and indicates that the position of dockyard surgeon only went to highly-experienced men. Two examples illustrate this well. Dr Alex Allen MD was appointed to the yard in May 1855. By the time he took up the post he had been a naval surgeon for 27 years, during which time he had served onboard a variety of naval vessels.[18] Edward Cree, who we encountered at the outset of this thesis, had similarly been serving for 27 years at the time of his appointment in 1864. Like Allen, he had been on numerous ships and had also seen active duty during Crimea.[19] As has been documented elsewhere, shipboard life presented medical practitioners with unique opportunities to enhance their knowledge and develop their skills.[20] Even in times of peace, the medical officer was frequently called upon to fulfil the roles of surgeon, physician, dispenser and sanitary officer, usually without the benefit of discussion or advice from fellow practitioners.[21] Hence, by the time a surgeon reached the dockyard he had a strong practical and theoretical grounding in the three main branches of medical practice, along with an understanding of preventative medicine and the importance of hygiene.

The calibre of dockyard surgeons was also reflected in their remuneration. In 1847, the post attracted an annual salary of £500.[22] This was almost £200 higher than the top-end of the pay scale for naval surgeons at the time.[23] By 1868, a further allowance of £106 had been added to cover the costs of servants, fuel and light.[24] Little wonder that medical appointments to the dockyards in general were highly sought after posts. Even without factoring in pension and accommodation entitlements, this compared very favourably with the income that might have been derived from private practice at the time. Our friend Doctor Doyle for example, never managed to make an annual profit of more than £300 in his eight years at Southsea.[25] Moreover, it should be remembered that the dockyard surgeon's salary was not dependant on building and maintaining a caseload of paying clients; nor was it subject to the costs this often involved. It is also notable that following the appointment of Dr Allen to the dockyard (1855) his, and all subsequent appointments until 1879, were at the rank of staff surgeon.[26] After this date a further upgrade occurred, with the post being assigned the rank of fleet surgeon. Obviously, seniority in rank or pay cannot necessarily be equated with medical competence but, taken collectively the evidence points in this direction. The same can also be said of the dockyard surgeon's assistant. He too received a premium salary. The post was also upgraded a number of times. By 1882 the dockyard's medical department was headed up by a fleet surgeon who had either a staff surgeon or two normal surgeons under him.[27] That such high-ranking officers were assigned to Portsmouth Dockyard is not really surprising. As a maritime power, Britain's Royal Dockyards were vital to national security. This meant that safeguarding the health of dockworkers was a serious concern for the Admiralty.

The position of the surgeon in charge within the overall organisational structure of the dockyard is ambiguous. It seems unlikely that he was part of the senior management team. Though high, his level of remuneration was considerably less than that of the other principal officers. He also had no relevant technical or managerial expertise to offer.[28] Yet, it is apparent from the records that he took orders directly from the Admiral Superintendent of the Dockyard. These could originate 'in-house', or alternatively come from the Admiralty or the Medical

Department of the Navy.[29] The surgeon was also an officer that the Admiral Superintendent listened to and consulted on issues that were not always related to matters of ill health amongst the workforce. Recruitment was one such area, where he undertook medical examinations of all men applying for work at the yard. His involvement was further extended in June 1860, when the Admiral Superintendent sought his specific advice on the recruitment of apprentices to the yard. The surgeon responded by devising a points system for assessing the suitability of candidates, based on comparing their age to their height, weight, girth of chest and muscular development.[30] Not only does the surgeon's participation in the recruitment process speak volumes about the importance of his position within the yard, but it also connects directly with a number of wider historical debates, including: the growing importance of science; the professionalisation of medicine; the changing perceptions of the role of the doctor. These themes recur throughout the rest of the chapter.

Patient Client Base and Caseload

The dockyard medical department had its own premises in the yard, which contemporaries referred to as the 'surgery'. Very little can be discerned about the dimensions of this building or its interior layout as neither is mentioned in the department's surviving records. Maps of the dockyard are equally unhelpful, giving no clues even as to its whereabouts. This suggests that in physical terms the surgery was a minor establishment, possibly even part of the surgeon's own private residence. From the surgeons' case books it is clear that the surgery was not equipped to deal with inpatients. Where this type of care was necessary, or when an injury prevented a patient from walking home, surgeons usually arranged for a cab at the dockyard's expense. Alternatively, they had the option to send more serious cases to Haslar Hospital. This is an interesting point in its own right given that dockworkers were civilians and Haslar was a state-run establishment built specifically for the treatment of naval personnel.[31]

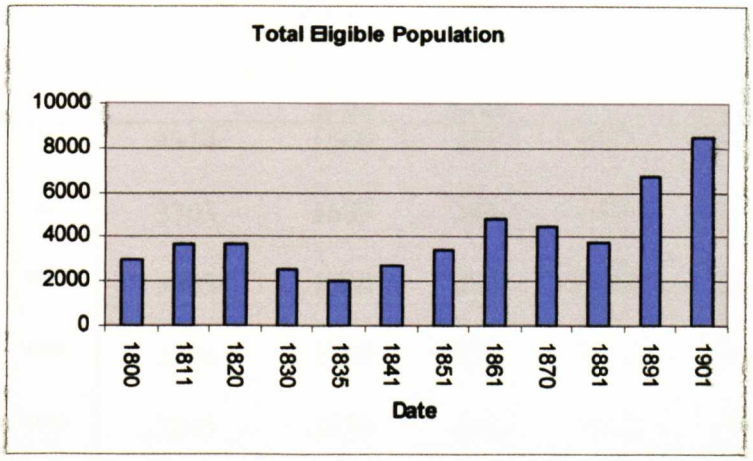
The medical department's client base was made up of two groups. The first was comprised of the officers, their families and their servants, who were attached to the Royal Naval College, the School of Naval Architecture (closed 1832) and the

Central School of Mathematics and Naval Construction.[32] These establishments were located within the dockyard and at any given time could have in the region of between 400 and 500 residents.[33] This group was entitled to comprehensive healthcare. Correspondence between the surgeon and the Victualling Board in 1827 (who at the time had responsibility for the medical affairs of the navy) indicates that professional attendance was expected in all cases except midwifery.[34]

Dockworkers were the second, and, by far, the largest client group. Throughout the nineteenth century all dockworkers were entitled to free healthcare for any injury or illness that was directly attributable to the dockyard.[35] In practice, for the most part, this equated to physical injuries. In keeping with contemporary naval terminology, these were referred to as HURTS.[36] HURTS were divided into two categories: 'slight' and 'serious'. After being examined by one of the medical officers, all patients were given free treatment. Those who were designated as having a serious HURT were then entered on the HURT LIST. This entitled them to receive ongoing healthcare and, if the situation warranted it, half pay until they were fit to return to duty. Under certain circumstances this might be increased to full pay or, in the case of very serious injuries, men could be superannuated instead.[37] Dockworkers who were more generally 'unwell' and suffering from an illness or injury not attributable to the dockyard were designated as SICK and entered on the SICK LIST. These workers were not entitled to either free healthcare or sick pay. However, reporting to the dockyard surgery was the mechanism by which they could safeguard their jobs until they were fit enough to return to work.

Figure 5.1 details the size of the medical department's overall client base. As can be seen, despite there being limits to what the medical officers were officially supposed to treat, in numerical terms the population that they looked after was substantial.

Figure 5.1: Total Eligible Population Served by the Dockyard Medical Department



Sources: PRO ADM 181, Navy Board and Admiralty: Navy Estimates; R. Riley, 'The Industries of Portsmouth in the Nineteenth Century', *The Portsmouth Papers*, 25 (1976), 3-22, (p. 9).

Unfortunately, with only the SICK lists for 1810-1815 and the HURT lists for 1873-1877 having survived, it is impossible to be precise about what this actually equated to in terms of a caseload. The best data available relates to the period 1861 to 1866 where, amongst the medical department's correspondence files, is a table constructed by the surgeon in charge providing statistical information on HURT cases for these years. From this, which forms the basis of table 5.1 below, we get a clear sense of how busy the dockyard's medical department was. Based on a fifty-two week year, at no time during the six years did the average number of new cases fall below thirty-six a week. Furthermore, it should be remembered that these figures do not include SICK cases, nor do they include the ongoing attendance of existing patients.

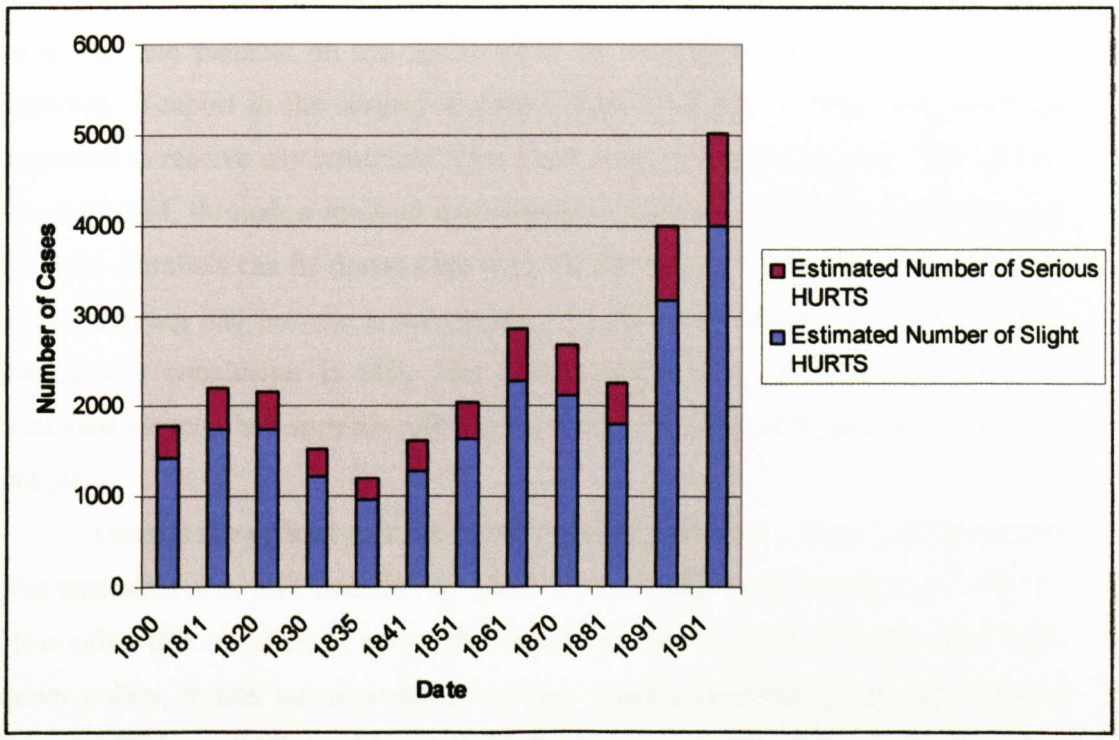
Table 5.1: Total Hurts Treated at the Dockyard Medical Department 1861-1866

Year	*Workforce*	*Slight Hurts not requiring to be put on the List*	*Serious Hurts requiring to be put on the list*	*Total Hurts*	*Total number of cases per 1000 of workforce*	*Number of slight hurts per 1000 of workforce*	*Number of serious hurts per 1000 of workforce*
1861	4314	1560	317	1877	435	362	73
1862	3303	1680	364	2044	619	509	110
1863	3303	1700	371	2071	627	515	112
1864	3296	1760	451	2211	671	534	137
1865	3245	1830	566	2396	738	564	174
1866	5400	1910	631	2541	470	354	117
Average					593	473	121

Source: RNM 1983/621-622, 12/1-3, Statement of the Number of Hurts Accrued 1861-1866; workforce data taken from: PRO ADM 181, Navy Board and Admiralty: Navy Estimates.

Table 5.1 also includes figures for the number of cases per 1,000 of the workforce across the six years, along with an overall average for the period. This average has then been used to construct figure 5.2 which estimates the number of HURTs treated by the medical department over the course of the century. It should be emphasised that is an estimate and nothing more. While it is reasonable to assume that there was some sort of connection between the number of injuries sustained and the size of the workforce, this was clearly not the only variable in play. Others which might have had an impact on the medical department's caseload included for example: the nature of the work being undertaken in any given year (construction or repair); changes to working practices; and the introduction of new machinery. However, notwithstanding these shortcomings, figure 5.2 does at least give some idea of the likely level of injuries being directly generated and, importantly, treated at the dockyard. Had it not been for this free on-site provision then potentially a large proportion of the medical department's patients each year would have been forced to enter Portsmouth's medical market in search of treatment.

Figure 5.2: Estimated HURTS Treated by the Dockyard Medical Department 1800-1901



Everyday Activities

The main services offered by the dockyard surgery remained unchanged throughout the nineteenth century. Essentially, it was a cross between what we would today call a GP surgery and a hospital's accident and emergency facility: drugs, bandages and the like were dispensed; wounds were dressed; injuries and minor ailments were treated. By the mid-1860s minor operations were also being performed.[38]

Men with HURTS could obtain treatment as and when the need arose. This usually involved a trip to the surgery but, if circumstances dictated, then a medical officer would go to the patient – wherever he happened to be in the yard at the time. Ultimately, this might result in a referral to Haslar. Access to this hospital was of great benefit to dockworkers suffering from serious injuries. Not only did Haslar offer nursing and medical care it also, in 1852, adopted chloroform in surgical procedures.[39] This was just five years after its very first use as a general anaesthetic

by the Edinburgh obstetrician James Young Simpson.[40] Men who were SICK were also regular visitors to the surgery. Unlike those with HURTS, they were not permitted to turn up when it suited them. With the exception of men who were too ill to attend, the patients on the SICK LIST or wishing to be entered on it were expected to report to the surgery at two o'clock each day.[41] These men were not supposed to receive any treatment. This clinic was all about managing absenteeism. It established, through a medical examination, whether a man was genuinely unfit for duty. Parallels can be drawn here with the Army and Navy, where the detection of malingering had become a state priority by the early-nineteenth century.[42] The inescapable conclusion is that, like his counterparts in the armed forces, the dockyard surgeon had seen his role expand beyond the treatment of sick and injured people.

Despite the official reasons for the two o'clock clinic, there is evidence that free treatment was still nonetheless given to men who were designated as SICK. How often this occurred is very difficult to say. As the practice contravened laid-down policy, it was not something that was readily recorded in the department's records. Widow Biddlecombe's petition for a pension following the death of her husband in 1849, is one of the few explicit examples. In a defensively-worded letter to the Admiral Superintendent, the surgeon was keen to establish that he and his assistant had gone beyond the call of duty in their dealings with this patient. Biddlecombe, he advised, was not a surgical case - hence, by rights, he was not eligible for treatment via the dockyard. In the surgeon's opinion, Biddlecombe had died because he was elderly and was suffering from chronic bronchitis. Yet, despite this, he confirmed that both he and his assistant had still 'often' attended the patient in his home prior to death.[43]

In addition to seeing patients at the surgery, the surgeon or his assistant also did a daily round, visiting the more severe cases on the SICK and HURT lists and checking up on those who had failed to attend the 'sick' clinic. This helped to ensure that eligible patients received and continued to receive healthcare and was a further means by which the dockyard authorities were able to police sickness. Officers and their families from the various educational establishments in the dockyard were

probably seen in this way too, as it is highly unlikely that they would have visited the surgery when ill. Medical officers from the dockyard were thus a familiar sight across Portsmouth. In their travels they came across not just dockworkers, but their families as well.

In fact, the surgeon or his assistant spent so much time visiting patients in Portsmouth that it had a knock-on effect back at the dockyard surgery. In September 1847 James Henderson, the surgeon in charge, wrote to Sir William Burnett (Director-General of the Medical Department of the Navy) and used a précis of an 'average day' to justify his request for the appointment of second assistant surgeon.[44] Despite the obvious potential for exaggeration in such a document, its contents are very informative. According to Henderson, the surgeon's daily round had become a full-time occupation for one person. This meant that the other medical officer was a 'constant prisoner' of the surgery, where he did his best to manage the flow of patients and all the other duties associated with its running. Henderson claimed that the medical department was so busy that, despite his best endeavours, it was proving impossible to discharge his duties satisfactorily under the article of instructions number 4. This required the sick to be visited each day to 'ascertain that the men are really ill and not absenting themselves for private purposes'.[45] As the records from both before and after Henderson's time show, fulfilling these instructions was an ongoing problem for medical officers. In order to cope with their overall workload, successive surgeons gave priority to patients with HURTS.[46] They also tell us that non-work related illness had a big impact on the dockyard too.

Henderson of course, did not have the benefit of this knowledge. He believed that the issue was his alone. As far as he was concerned there was a simple explanation for the size of the daily round: the steadily increasing workforce was generating cases of occupational ill health (both HURTS and SICK) too numerous for him and his assistant to manage effectively. He explained that on any given day there were between 80 and 90 on the sick list and a further 30 to 40 absent from work due to injuries, of which 12 might be confined to bed. The problem of sheer volume was compounded by the fact that many of the men seen at home needed to be visited more than once a day. Patients also tended to be widely dispersed across

the Portsmouth area: 'while one may be living near Cosham or Milton another is perhaps at Alverstone, or Brockhurst on the Gosport side'.[47] Hence, the picture that emerges supports the conclusion that the medical department was very busy. While one of the medical officers was worked off his feet in the surgery, the other was out and about all day seeing patients in their homes. Importantly though, Henderson's letter gives an indication of the level of care that was extended to dockworkers. If a man was ill enough (injured or sick), then he could expect not just to be visited at home, but to be visited periodically throughout the day if his condition warranted it. Surgeons' case notes from some twenty years later reveal that this standard of care was by no means peculiar to the medical department under Henderson's leadership.[48]

To complete this outline of the everyday duties of the medical staff it is also possible to say something about the hours that they kept. As the prioritisation of patients and the eligibility criteria for free healthcare indicate, the medical department's primary function was to provide treatment to dockyard employees who were injured because of their work or the working environment. By its very nature, the dockyard was a place where injuries and medical emergencies could occur at any time of the day or night. Contractors in the yard for instance, often continued to work irrespective of normal dockyard hours.[49] Additionally, the medical officers could be called to emergencies unconnected with the actual dockyard itself. On 7th December 1851, the surgeon in charge attended Edward James Reed, a student of the mathematical school, who he found to be labouring 'under great excitement' in a 'delirious state' and being 'very noisy'. After administering an anodyne, the surgeon remained with the patient until midnight when eventually he calmed down and fell asleep.[50] Thus, while the surgery kept normal working hours, the medical officers were effectively on call twenty-fours hours a day.

Other Duties and Responsibilities

In addition to ensuring the day-to-day smooth running of the medical department, the surgeon in charge had a number of other duties and responsibilities. Many of these were administrative in nature. On an annual basis he was required to prepare

the department's financial accounts for external auditing. At the same time he also had to submit for approval a bulk order for medicines and medical stores, sufficient to cover the dockyard's ordinary needs for a 12-month period. Importantly for Portsmouth's medical market, these orders were **NOT** sourced locally. Instead, they were fulfilled by Haslar Hospital who in turn were supplied centrally.[51] As head of the medical department, the surgeon in charge was also responsible for accurately maintaining the SICK and HURT lists. Although very few of these have survived, it is clear from other sources that they were vital documents, regularly examined by the Admiral Superintendent. The Medical Department of the Navy also always requested copies as part of their annual visit and inspection of the dockyard medical department. The importance of these lists is easily explained. Not only did they provide up-to-date management information on available human resources but, as we have already seen, they were used to determine entitlements to healthcare and sick pay.

As the nineteenth century progressed, the administrative burden of running the dockyard's medical department grew. With naval spending under the spotlight, increased central demands for information required the surgeon in charge to keep ever-more comprehensive records of its activities. The establishment of a distinct Medical Department of the Navy in 1833 did little to stifle the developing appetite for 'management' figures. By 1847, in addition to the reports already detailed, he was expected to provide: a quarterly nosological, medical and surgical report; an annual report of the receipt and expenditure of medicines and stores; an annual return of the issue of rupture trusses, accompanied by a receipt from each of the recipients. Further orders were received in November 1851, instructing him to ensure that his assistant kept a journal, documenting his activities in the yard.[52]

Increased emphasis also started to be put on the keeping of detailed patient case notes (over and above the traditional SICK and HURT lists). The Lord High Admiral first issued orders to this effect in 1827, instructing dockyard surgeons and their assistants to keep a 'sick book' for inspection by the medical commissioners of the Victualling Board. This was to contain 'a full and detailed history of all the most important and interesting cases falling under their management'.[53] Initially, these

orders appear to have been greeted with little enthusiasm and to all intents and purposes forgotten, both by successive surgeons at Portsmouth and by the medical commissioners. Although the orders were reiterated in January 1833 this evidently changed little and just two cases were recorded in Portsmouth's sick book between 1827 and 1838. It was not until 1851, under the increasingly more watchful eye of the Medical Department of the Navy, that an external inspection brought to light the fact that the order had not been satisfactorily implemented.[54] James Henderson, who was in charge at the time, made a swift apology for his department's failing in this regard. In his letter to Sir William Burnett he acknowledged that he had; 'not perhaps fully carried out the spirit of the said order'. The only defence he could offer was that since his appointment in 1838 the book had been filled. Henderson concluded by stating that with immediate effect the matter would receive 'particular attention'.[55] In doing so he was taking on a far from inconsequential task. The first sick book to survive is dated 1866 (by which time they were referred to as case books) and records no less than 437 important or interesting cases for this year.[56] As we shall see later on, these case books are an invaluable source for evaluating the extent and changing nature of occupational illness.

How then can this steady bureaucratisation of the dockyard's medical department be explained? And what does it tell us about the changing role of the medical officers and the healthcare that was on offer to dockworkers? It is tempting to see the increase in red tape as just symptomatic of reforms made by successive Boards of the Admiralty aimed at achieving greater efficiency in the Royal Dockyards. These began with the appointment of Sir James Graham as First Lord of the Admiralty in November 1830. Graham was a Whig politician determined to reduce spending, and quickly set about overhauling the administration of the navy, beginning with the abolition of the Navy Board in 1832.[57] To an extent this was probably the case and without doubt much of the information that the surgeon in charge was required to collate helped to establish an audit trail and exposed the dockyard medical department to external scrutiny. Yet this was only one of the reasons for the increase in bureaucracy and arguably not the most important.

Of greater significance were the consequences which arose from the Admiralty's decision to bear a greater responsibility for the welfare of its civilian workforce. The first sign that a positive shift was underway came in 1839 with the reintroduction of pensions for artificers and workmen on the establishment of the Royal Dockyards and Victualling Yards. Pensions had previously been paid to established men with thirty-five or more years' service, but were abolished in 1832 for a seven-year period as part of Graham's reforms.[58] The 1839 scheme was much more generous than ever before. Those with twenty or more year's service could now look forward to a pension when they became too old to work. Additionally, individuals could be superannuated (or in the event of death in service, their families compensated) in cases where their working life was interrupted or ended prematurely as a consequence of injury or ill health attributable to the dockyard.[59] Further improvements occurred in 1859, when the arrangements in operation at the Royal Dockyards were incorporated into the wider Civil Service Superannuation Scheme. This saw a relaxation of the eligibility criteria for pensions and a substantial increase in the benefits paid (even labourers now qualified for a pension of up to £31 6*s* p.a.).[60]

Clearly, there were financial implications attached to providing such a scheme. Moreover, the superannuation of employees due to ill health was an aspect of the new arrangements that were potentially open to abuse from spurious claims. These considerations had a two-fold effect on the role of the dockyard's medical officers. Firstly, they were increasingly called upon to act as expert witnesses in petitions for compensation or in cases where superannuation was claimed on the grounds of ill health. Although they had always performed such a function in respect of the SICK and HURT lists and under the old pension arrangements, this aspect of their role now became greatly expanded.[61] In effect, by extending their responsibility as employers, the Admiralty had created a new dependency on the dockyard's medical officers. Secondly, in order to fulfil this rapidly developing aspect of their role, it became necessary for the medical officers to maintain accurate and comprehensive notes on their patients. Under the 1839 scheme, the Admiral Superintendent was required to provide the Admiralty with a completed pro-forma

for each of those men applying, or being recommended for, superannuation. This was designed to assist the decision-making process and was used to determine the level at which any pension was paid. The pro-forma included an assessment of the applicant's moral character and, crucially, for the dockyard's medical department, a section in which to record full details of 'the disease or hurt which may render a man unfit for further service... stating whether the disease or injury has been occasioned by the service'.[62] It is interesting to note that the introduction of this system roughly coincided with Surgeon Henderson's appointment in 1838 and his decision to start recording at least some cases in the previously unused sick book. This was presumably because he could now see the practical value of such a record, as it made the completion of superannuation forms that much easier.

It is not clear how long this pro-forma remained in use, but the indications are that the medical section of it had become obsolete by the 1850s. By this date the dockyard medical department's correspondence files show that the Admiralty and the Admiral Superintendent usually expected full medical reports in support of claims. Similarly, when one of the medical officers proactively recommended a person for superannuation, he began to pre-empt such requests by providing medical reports at the outset, as a matter of course. The report prepared in 1865 concerning Mr Grant Smith illustrates the level of detail that these could contain:

> In accordance with your directions to examine and report on the health and physical condition of Mr Grant Smith I beg to state in 1856 he received a severe contusion of the back and loins from a fall off a ladder while he was employed in the Dockyard Fire Brigade and assisting in extinguishing a fire in the town which injury kept him in the Haslar Hospital for 7 weeks when he returned to light duty... he has continually suffered since this from pain at the parts referred to which prevents him lifting heavy weights or using much exertion... in March last year he was placed on the sick list for a severe rheumatic attack... which prevented him doing duty for upwards of 3 months since which time he has been employed in light duty... he complains of frequent attacks of giddiness... therefore taking into consideration his previous history and present condition I would beg to recommend him for superannuation.[63]

It is also pertinent to observe that the patient history contained in this report covered a nine-year period, during which time two different people had been in charge of the dockyard's medical department. The report was therefore not written from memory. At the time of its submission, the author had only been in post for approximately five months.[64] This confirms that by the 1850s, patient notes of sufficient detail were

being kept to enable thorough case histories to be constructed, even when the medical officer and the patient had had only limited contact. Whether these records were put to any therapeutic or medical use cannot be discerned. Either way, that they were kept at all is significant within the broader history of patient records. Although the case books of individual doctors have been found from as far back as the sixteenth century, current research suggests that the systematic collection of patient data was more a nineteenth-century phenomenon.[65] The Royal Dockyards were therefore relatively early adopters. Much can be read into this.[66] The positive interpretation is that, as healthcare providers to a civilian workforce, the Admiralty were in the vanguard when it came to implementing perceived advances in clinical and medical practice.

This upbeat appraisal holds true when we look beyond the purely administrative and consider the other additional duties and responsibilities of the dockyard's medical staff. Innovation, for example, was something that was actively encouraged throughout the century. Evidence of this appears even before the formation of the Medical Department of the Navy. In June 1830, the surgeon at Portsmouth received a notification from the Victualling Board advising him that they had directed:

> Mr Cow of Woolwich Dock Yard, to forward to you a set of bandages invented by him for fractured limbs; I am commanded to signify the Board's desire that you will cause a trial to be made thereof at the first opportunity, and report your opinion regarding them...[67]

In October of the same year a circular was received instructing that:

> A Book should be kept at the Hospitals and dockyards, showing the nature of any newly invented/ contrived instruments that may be received at those places for trial, the time they were sent, and whether any and what report has been made upon the same... you will also cause a quarterly report to be made to the Board[68]

These items of correspondence are enlightening in other ways as well. Firstly, they indicate that while naval administration may have been bureaucratic and cumbersome, it nonetheless provided a mechanism through which best practice could be shared. Secondly, the mention of 'instruments' along with the systematic testing of medical innovations points to the centrality of science to medical practice in the Royal Dockyards and to the growing professional status of their medical officers. Thirdly, the fact that Mr Cow's bandages were sent for trial at Portsmouth,

implies a commonality in the health issues faced by different dockyards. This point is picked up later on. Finally, the correspondence suggests that at both a central and a local level a proactive stance was adopted towards dealing with health issues.

This same ethos can also be seen in the medical department's final area of responsibility. As well as caring for sick and injured dockworkers, medical officers also performed sanitary and public health roles within the dockyard.[69] Some of their activities were centrally led – both by the naval administration and by Admiral Superintendents of the dockyard itself.[70] The Admiralty for instance, provided explicit instructions concerning the upkeep of official residences in the yard, which included whitewashing and cleaning in-between occupancies. Though the relevant circular was addressed to the Admiral Superintendent, the responsibility for ensuring that these aspects of the instructions were carried out was delegated to the surgeon in charge.[71] The Admiral Superintendent also sought advice from his medical officers on issues ranging from rodent infestations to drainage and ventilation within the dockyard and its buildings.[72]

There is also plenty to suggest that successive heads of the medical department actively pursued their own preventative agendas while in post. First and foremost, they were very keen to stop disease spreading amongst the workforce. As soon as risks were identified prompt action followed. This can be illustrated by looking at what happened in March 1849, after it was discovered that a number of men belonging to different contractors in the yard were afflicted with smallpox. To contain the outbreak, the surgeon wrote to the Admiral Superintendent proposing the following course of action:

> I beg leave to suggest for your consideration whether an order could be issued to prohibit the return of any person, who may be absent from small pox, without being examined at the surgery, and a certificate given of fitness for admission, whereby the spreading of the disease amongst the several workmen of the Dockyard will in some degree be checked.[73]

Of course, set within the broader context of naval medicine, it is no surprise to find that dockyard medical officers were on the ball when it came to disease containment. Having all seen active service, they were no strangers to dealing with outbreaks of disease; at sea, naval surgeons faced the problem all too often.[74] More specifically to smallpox, many naval surgeons were also involved in administering the Admiralty's

voluntary campaign of vaccination against the disease which was introduced during the Napoleonic Wars.[75] Finally, there is also some evidence, albeit limited, that medical officers sought to influence dockyard working practices in order to minimise the risk of injuries from accidents. The subtext of the following letter to the Admiral Superintendent is very clear:

> I beg to report that John Legg, labourer, was severely burnt in the face and both hands by an explosion of naphtha which was ignited by a fire at which he was employed boiling oil, naphtha and varnish being mixed within a few yards of where he was working. The accident occurred at about 3.30pm 22 Dec 1864.[76]

As far as the surgeon was concerned, the accident was entirely avoidable. By using his unique position in the yard to escalate the matter to the Admiral Superintendent, he was obviously hoping to effect change. Attention is now turned to the nature of occupational ill health generated by the dockyard and its work.

5.2: Health and Dockworkers

The nineteenth century bore witness to arguably the two most important developments in naval shipbuilding since Tudor times. The first was in the means of propulsion. At the end of the Napoleonic Wars, Royal Navy vessels still relied on sails and wind power. By the time that hostilities had ended in the Crimea, this had all changed. When Queen Victoria inspected the fleet after its return from the Baltic in 1856, 247 of the 254 ships anchored off Spithead were fitted with steam engines.[77] The second development was in the materials used to construct ships' hulls. During the sixty or so years that followed the Battle of Waterloo, these went from being made of wood, to wood clad in iron, and then simply to iron. As we have already noted, these developments prompted considerable changes in the Royal Dockyards: they grew in size; became increasingly mechanised; new working practices were adopted; old trades all but disappeared, while a whole array of new ones took their place. It is against this backdrop that attention is now turned to the changing nature, causes and frequency of injuries suffered by Portsmouth's dockworkers. Consideration is also given to the growing realisation that physical injuries were not the only form of ill health directly attributable to the dockyard and its work.

To provide a framework for this analysis and to allow comparisons to be made, the nineteenth century is divided into two broad periods: the period before the introduction of steam and iron, and the period after. Precisely dating the end of the first period and the start of second is difficult for the simple reason that we are talking about gradual, rather than abrupt change. Period one runs approximately until the late 1840s/ early 1850s, its end coinciding with the gradual commencement of work in the dockyard's new steam complex.[78] Although Portsmouth was involved in the construction of steam vessels before this, up until 1849 these were sent elsewhere to have their engines fitted.[79] Period two, which covers the rest of the century, encompasses both the adoption of steam and, shortly afterwards, the use of iron in ships hulls.

A broad understanding of the overall chronology of this transition is important to the discussion. Particularly in period two, developments in shipbuilding had observable effects on dockworkers' health. There is a very substantial literature on the changeover to steam and iron; some of which is highly technical in content.[80] For our purposes a broad outline is all that is required. The general introduction of steam propulsion came after 1843, and followed the famous tug-of-war between '*Alecto*' and '*Rattler*' in which the former, a paddle steamer, was convincingly beaten by the latter, a vessel with a similar size engine but fitted with a screw propeller.[81] In the decades that followed, hulls continued to be made predominately of wood. But, in addition to masts and sails, many naval vessels were fitted with steam engines and either paddles or screw propellers. '*Agamemnon*', Britain's first screw-propelled battleship was launched in 1852.[82] As was stated in chapter three, shipbuilding gained fresh impetus following the Crimean War and the launch of the world's first iron-clad battleship by the French in 1858. This marked a new phase in battleship design and construction, and prompted Britain to adopt iron hulls as a counter to this new threat. The Royal Navy's first iron-clad was launched in 1860.[83] Eleven years later in 1871, the final end of wood and sail was marked by the launch of '*Devastation*'. Described at the time as 'an impregnable piece of Vauban fortification with bastions mounted on a floating coal mine', this twin-screw ship had turret-mounted guns and an iron hull protected by 12-inch armour plate.[84]

Common Injuries in the Period Before Steam and Iron

As far as patients are concerned, the historical record is far more fragmentary prior to 1850 than it is after the introduction of steam and iron. Not only were dockyard medical officers required to keep fewer patient records before this date, those they did, for the most part, have been lost to time. The sick book introduced by the Lord High Admiral in 1827, for example, and subsequently mentioned by Henderson in his letter to the Medical Department of The Navy, is no longer in existence. However, surviving orders issued to the surgeon in charge, along with the various exchanges of correspondence between him and his superiors, give a good insight into the causes and nature of injuries commonly sustained by dockworkers during the time of wood and sail. They also give a strong impression of frequency with which these occurred. Before moving on, it needs to be emphasised that the injuries under consideration here are those which would have been designated as 'serious HURTS' by the surgeon. Slight HURTS, such as the everyday cuts and bruises treated at the surgery, were not recorded and were certainly never a subject for correspondence.

Throughout the period the one type of injury that stands out more than any other is hernias. This is of course consistent with the kind of heavy lifting and twisting that was involved in shipbuilding at this time. Hernias were sustained by all types of workers and, by some distance, accounted for more superannuation claims than any other type of injury or illness. They also plagued the Royal Navy more generally, with seaman aloft in the rigging frequently rupturing themselves as they hung over the yards to hand sail.[85] In fact, hernias were so common (and costly), that the Admiralty was keen to develop an 'off-the-peg' solution to the problem. This, they evidently hoped, would be forthcoming from the Royal Dockyards; for in these establishments the workforce was of such a size that it generated sufficient numbers of sufferers to permit rigorous testing of new methods and products designed to treat the injury.[86] In December 1828 the surgeon at Portsmouth received a consignment of trusses, with pads of an 'improved position' which he was ordered to:

> Cause... to be supplied to such persons as you may have frequent opportunities of examining, for the purposes of ascertaining if they express any superiority over the [existing] trusses in [use], reporting for the Board's information[87]

This was by no means an isolated incident either. Less than two years later in November 1830, yet another set of 'New Patent Trusses' were received for trial at Portsmouth.[88]

Aside from the obvious, the wording of the order detailed above implies that hernias were such a frequent and run-of-the-mill injury that only the more serious cases received ongoing attention from the medical officers. The notion that hernias were very common is backed up by other evidence. In February 1827 orders were received instructing that a careful account was kept of all trusses issued, as it had come to the attention of the Commissioner for Victualling that 'several dockyards' were issuing them 'without obtaining receipts'.[89] Six years later, a new set of instructions was issued for the guidance of the 'Principal and Inferior Officers of His Majesty's Dockyards'. Of the twenty-four which related to the surgeon in charge, only one made specific mention of injuries while the rest covered administrative matters concerned with the day-to-day running of dockyard medical departments. This single instruction stated that the medical officers were: 'to supply trusses to those receiving a hernia in the course of their duties'.[90] The frequency with which hernias are mentioned in the records and the matter of fact way in which they are talked about, implies a general acceptance of them as occupational hazards. But, even though this was undoubtedly the case, it is clear that the Admiralty were far from complacent. Indeed, a testimony both to scale of the problem and the level of responsibility felt by the Admiralty is that there is even evidence of their preparedness to provide healthcare to hernia sufferers long after their working life. In December 1827, the surgeon in charge was ordered to supply a truss to a retired shipwright. [91]

Fractures, lacerations and contusions were also very common injuries, particularly to the legs, knees and ankles. Evidence for this comes from two main sources. Firstly, as with trusses, the surgeon in charge was periodically ordered to trial and report back on the efficacy of other medical innovations. Mr Cow's previously mentioned 'air-tight' bandages for fractures which were sent to Portsmouth in 1830, are one such example. We learn from the surgeon's subsequent

acknowledgement that this consignment comprised bandages for the forearm, humerus, knee, leg and foot, and thigh. In the same letter, the surgeon also confirmed receipt of five long splints (presumably for leg fractures) and one short splint (arms), items which again he had been asked to test.[92] The second source of evidence comes from the exchanges of correspondence concerning ongoing cases, superannuation claims and petitions for compensation. These could be quoted at length, but the following example of a report from 1830 is indicative:

> SPRIGGS was on the Hurt List between the 26th May & 22nd June 1819 with a lacerated scalp; between the 26th April & 7th May 1823, with a bruised leg; and between the 12th & 29th November 1828 with a bruised ankle, but these Hurts were perfectly cured – There is a varicose state of the veins of both legs unconnected with any injury received in the service, which may render his entering on board any of His Majesty's Ships objectionable at present[93]

As with hernias, the causes of these types on injuries was predominately work-related. Injuries to the legs for example were frequently caused in accidents involving the use of an adze. Wright made similar observations in his examination of Chatham Dockyard.[94] The adze was a wicked curve-shaped axe that was used extensively to shape large pieces of timber for ships hulls. Figure 5.3 shows a simple drawing of one in use. It is easy to see from this why accidents involving this tool commonly resulted in injuries to the legs and ankles.

Figure 5.3: The Adze in Use

Source: Donated to the Wikimedia Foundation by Pearson Scott Foresman.

Common Injuries in the Period of Steam and Iron

The injuries identified so far continued to be prominent after 1848 when work at the dockyard moved to the construction and repair of steam vessels and then to steam and iron vessels. These changes in naval shipbuilding were, however, responsible for a whole range of new injuries becoming common amongst dockworkers. The location of injuries changed also, from being mainly orientated towards the lower half of the body, to frequently including the upper body as well. There is also evidence that injuries of all types increased in frequency during this period. In a request for more staff in 1866, the surgeon in charge claimed his department's duties had become 'more onerous from the large number of accidents resulting from the greater amount of heavy iron work in which a large number of men are employed in this yard'.[95] Working with steam and iron had the same effect on the frequency of injuries at Chatham Dockyard. In 1864 the surgeon from this establishment wrote to the Medical Director-General of the Navy stating that his department's 'daily and other duties here... have increased very much of late owing to the recent change in the nature of the Dockyard work'. He went on to comment: 'Accidents have not only increased in number of late but they have also differed a good deal in character since the substitution of iron for wood in shipbuilding'.[96]

Two types of injury became noticeably more common, matching the experience at Chatham Dockyard.[97] The first of these was injuries to the eyes. These had always occurred but, after 1848, they are mentioned increasingly often by the medical officers. The main reason for this was the greater use of iron. Shipwrights were particularly susceptible to eye injuries. In the days of wooden hulls they had received injuries to their legs and ankles whilst using the adze. But iron was a very different material to work with; it produced chips and sparks that could fly off. The case of the shipwright George Rogers is typical. The surgeons' case book reveals that in November 1866 he received a wound to his left eye when a piece of iron flew off from a bolt that he was chipping on board HMS '*Sovereign*'.[98] Boiler makers were also victims. In January 1853 John Painter was working on the boiler of the steam vessel HMS '*Fury*' when a piece of iron flew off from a rivet and it him in the left eye, causing immediate and permanent blindness.[99] The degree to which injuries

to the eyes became an issue is exemplified by a letter that the surgeon in charge sent to the Medical Department of the Navy in July 1868. He wrote as follows:

> Sir,
> As there are a large number of injuries to the eyes of men employed in this dockyard and invaliding consequent thereon the necessary examinations of the eyes would be greatly facilitated by the aid of an ophthalmoscope. I have therefore to request you will be pleased to allow one of these instruments to be furnished for the use of this establishment.[100]

This letter also reiterates points made earlier about the importance of science to medicine in the dockyards and the effectiveness of the naval administration as a vehicle for sharing best practice and transmitting knowledge.

Burns were the second type of injury to feature more prominently after 1848. This was partly due to the introduction of gas and steam, but the main reason was, again, the increased use of metals in the construction of naval vessels. Just about every occupation in the yard appears to have been susceptible to this type of injury. Burns could arise directly from the material itself, such as in the case of the smith, Philip De Frenchy, who sustained a nasty burn to his left foot after spilling molten iron on it.[101] Alternatively, they could be caused by the tools, machinery and processes that were used to heat and then work the metal. The case of Edmund Hopkins, a stoker, illustrates this point. In March 1871 his face was badly burnt by flames from a furnace.[102] Analysis of the surgeons' case books for 1866 and 1871 also suggests that certain occupations were more prone to burn injuries. Rivet boys are a good example, particularly as their very occupation owed its existence to the introduction of iron to naval shipbuilding. Their main job was to hammer white hot rivets into the holes of ships' plates. As a consequence, injuries to the hands, including burns were a common problem. In April 1871, Daniel White suffered the fate of many rivet boys when he severely burnt both of his hands on a pair of hot tongs.[103]

Aside from new injuries asserting themselves, the realisation that naval shipbuilding could cause other forms of ill health, emerged during this period. The first recorded mention of the issue was in 1859, when sawyers in the yard petitioned the Admiral Superintendent claiming that an increase in their workload was responsible for a three-fold rise in levels of sickness. The surgeon's report commissioned as a result probably gave the authorities little comfort. Although

dismissing the existence of a direct link, on the basis that the men concerned all displayed different symptoms, it nonetheless concluded that in a 'very general sense' there was a connection between rising incidences of sickness amongst the sawyers and their increased workload.[104] As the Admiral Superintendent would have been only too well aware, if cases such as these were proven, then the implications were potentially far-reaching. In effect, men who had previously been classified as SICK would now have to be reclassified as suffering from HURTS. This in turn would make them eligible for free healthcare and sick pay.

Sadly, the outcome of the sawyers' case is not documented. However, an incident some years later indicates that at least a tacit acceptance had developed on the part of the dockyard authorities about the existence of a link between this occupation and general forms of illness. In what was obviously related to a compensation claim, the surgeon commented as follows:

> In compliance with your memo of this days date respecting the death of James Richards, late sawyer, I understand that for some years he worked as a top sawyer, but owing to the reduction in the yard, he had been removed a few days before his death to the bottom of the pit where he would obtain a less supply of fresh air, this, with the altered position of his body, presuming he died of heart disease would be very likely to accelerate his death[105]

As this and the sawyers' original petition also reveals, the Royal Dockyards may have been exempt from workplace legislation, but they were clearly not cocooned from contemporary debates concerning industry and health.[106] The surgeon's assertion that a lack of fresh air had accelerated James Richards' death, articulated popular medical opinion at the time. Campaigners associated with the various *Factory and Workshop Acts* were particularly vocal in their belief that 'dust' and poor ventilation were primary causal agents in work-related illnesses.[107] The mention of a top and bottom pit in this context is also interesting. One reading of this is that some form of work rotation was in place or, alternatively, that work in the bottom pits was normally restricted to younger and stronger men. There was an established precedent for such a system in the Royal Dockyards. In 1805 a similar practice was introduced to reduce incidences of hernias amongst riggers, whereby nobody over the age of 35 was allowed to be entered either as a rigger or a rigger's labourer.[108] Until the end of the nineteenth century the *Factory and Workshop Acts*

targeted the working environment and vulnerable groups in the workplace (women and children). In the Royal Dockyards the strategy was arguably more forward thinking, whereby work practices were regulated for health reasons as well. [109]

From an historiographical point of view the Admiralty's approach to the issue of lead poisoning amongst dockworkers is more significant. Although the health risks associated with this substance had long been understood, there was no legislation to regulate its use in industry until the *Factory and Workshop Act* of 1883.[110] Even as late as 1906, when the 'no fault' system of workmen's compensation was extended to include poisoning from lead, victims still had to demonstrate that their illness had arisen 'out of and in the course of employment'.[111] In the Royal Dockyards however, official recognition that lead posed a health risk to dockworkers can be dated to much earlier, as can action to minimise its effects.[112] At Portsmouth, the first documented case where illness resulting from lead poisoning was classified as a HURT appears in April 1867.[113] Following this case, and many others like it, the surgeon suggested to the Admiral Superintendent that:

> I ...suggest that...men should not be continuously employed amongst the red lead, but if possible for only one week in every three or four, fresh men taking their places as to allow the effects of the poison to pass off while otherwise employed and also that men becoming temporarily disabled from the lead poisoning be placed on the HURT list instead of the SICK list so as to entitle them to half pay while disabled.[114]

Six years after this recommendation was made, the Admiralty issued instructions to all the Royal Dockyards giving 'guidance concerning men who were employed sealing in the double bottoms, store rooms, or other confined places of iron-clads, where red or white lead paint has been used.' Yet again these focused both on the individual and working practices, including, amongst other things: a washing regime for hands and face; the provision of muslin masks to minimise inhalation of fumes; light imperious caps to protect workers' heads; recommendations concerning diet, in particular the eating of bacon at breakfast and fat or oily food more generally.[115]

As is apparent from the examples cited above, as awareness grew in this period about work-related illnesses, so 'grey areas' appeared in the distinction between SICK and HURT. Potentially, this had broader consequences for the development of healthcare in Portsmouth. As more incidences of ill health came to

be classified as HURTS, so more patients became eligible for free healthcare via the dockyard. Although it is impossible to quantify, the implication is that provision at the dockyard starved the local medical market of yet further custom.

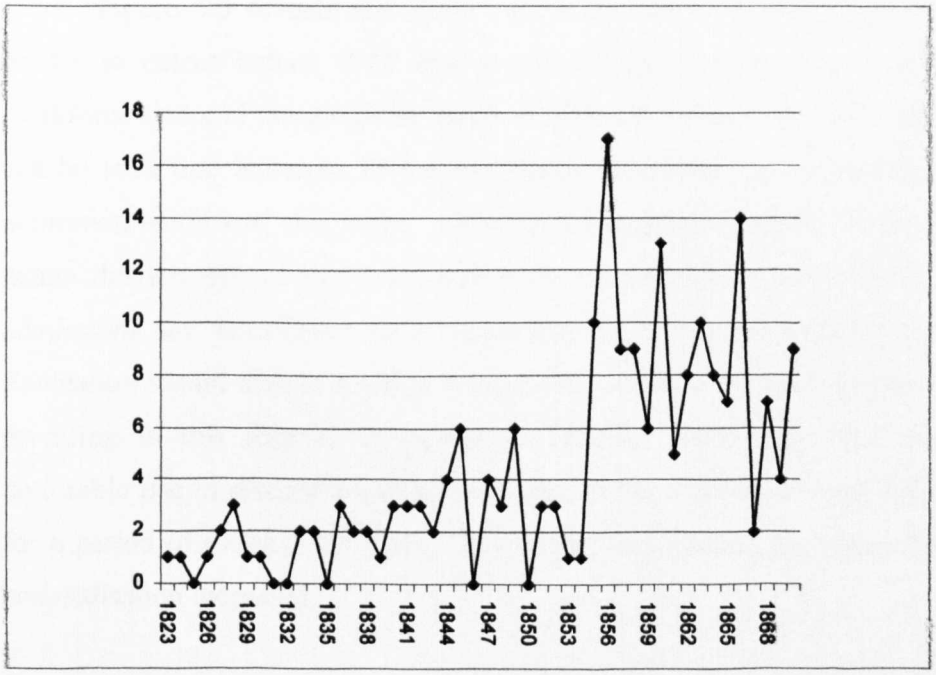
Injuries Requiring Hospital Treatment: Before and After the Introduction of Steam and Iron

From time to time injuries were so serious that they required hospital treatment. Very occasionally they resulted in death. The Lords Commissioners of the Admiralty officially extended the facilities of Royal Navy Hospitals to dockworkers in April 1815 for what were deemed 'extreme cases'.[116] Access to Haslar Hospital was thus part and parcel of the healthcare package available to workers at Portsmouth Dockyard. Haslar Hospital was built during the second half of the eighteenth century 'for the reception of sick and wounded seamen sent on shore from H.M. Ships'.[117] Set in 95 acres of land on the Gosport side of the entrance to Portsmouth Harbour, it was a truly immense institution. For many years it remained the largest brick building in Europe.[118] By the time of Admiral Barrington's inspection in 1779, Haslar could accommodate 2100 patients and admissions were running at almost 10,000 cases per annum. Patients were nursed in 84 general and surgical wards, as well as a consumptive ward and isolation wards for fever and smallpox.[119]

Haslar's position as the premier Royal Navy hospital remained intact throughout the nineteenth century. A total of 202 dockworker admissions have been tracked down, spanning the years 1823 to 1871. Further analysis of the surgeons' case books covering the last decades of the century would almost certainly uncover more, but for our purposes what is important is that the admissions traced encompass both the period before, and after, the introduction of steam and iron. Figure 5.4 plots the actual distribution of admissions between 1823 and 1871. Two trends emerge from this. The first relates to the years 1823-1854, where it will be seen that admission levels remained fairly stable. Although a peak and trough effect is produced when these are plotted on a graph it would be wrong to attach any

significance to this pattern. Instead, it merely reflects the fact that the actual number of admissions was very low in these years; on only four occasions did they exceed in three in a year. The second trend relates to the years after 1854, where a sudden and marked rise in admissions is evident. At first, the underlying trend here appears to be one of growth. But, on closer inspection, it is apparent that after the initial jump in 1855, admissions, though displaying a peak and trough effect, stabilised again, albeit at a much higher level than before.

Figure 5.4: Dockworker Admissions to Haslar Hospital



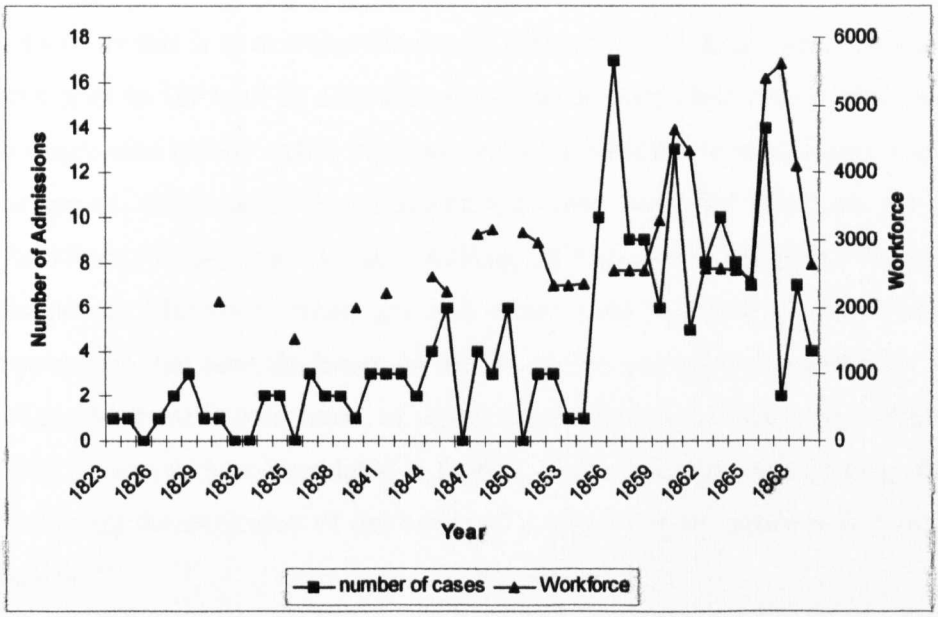
Source: RNM 1983/621-622 – 12/1; RNM 1/1-30, case book 1871; NMM, POR/J/6. Due to the start and end dates of the sources, data is incomplete for a number of years: 1823 (Jan-April missing); 1849 (Nov-Dec missing); 1850 (Jan-Jun missing); 1869 (Sept-Dec missing).

Aside from the potential effects on health wrought by the changeover to steam and iron, two other factors might obviously account for these trends: changes to the admissions policy; fluctuations in the size of the workforce. The first of these can be discounted immediately. Had any variances in policy occurred, then these would have been officially communicated, probably by way of a general order to all Royal Dockyards. As such, one would expect to find a record of this or, at the very

least, some mention of it in subsequent admission reports. On both counts, the surviving records produce a nil return. Moving on to the second factor, it is not unreasonable, even allowing for variables such as medical advances or the implementation of new safety procedures, to expect admission levels to bear some relation to the size of the workforce. As we already know, this steadily rose during the nineteenth century, but on a yearly basis could vary dramatically, depending on the political situation at home and abroad. This might account for both the sudden jump in admissions and the peak and trough effect in evidence throughout the century.

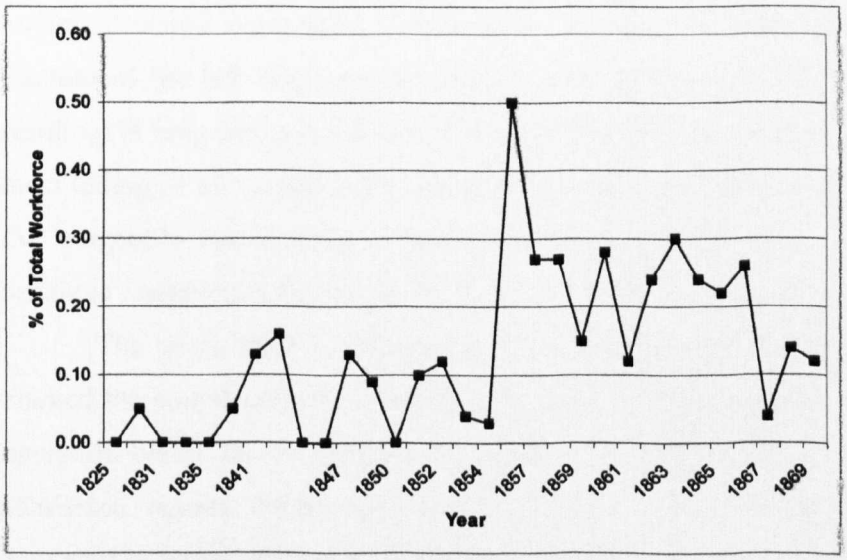
Figure 5.5 reveals that there was a correlation between the two. This is harder to detect before 1840 due to the limited survival of sources detailing workforce size and the generally small number of admissions. After this though, it can be seen that increases in the workforce were often accompanied by rises in admission levels and vice versa. Although a regression analysis would allow us to gauge the strength of this relationship, its consistency is what matters most. If admissions are considered as a percentage of the total workforce, then little fluctuation would denote a stable relationship between the two. Figure 5.6 is very revealing in this respect. In particular, between 1855 and 1866 there was a noticeable rise in admissions as a percentage of the total workforce, indicating that, for a period of roughly ten years, the chances of receiving an injury that required hospitalisation increased.

Figure 5.5: Admissions Compared with Workforce



Source: PRO ADM 181, Navy Board and Admiralty: Navy Estimates. Workforce figures also obtained from: NMM, POR/J/6; RNM 1983/621-622 – 12/1; 'Statistics of the Island of Portsea', *Journal of the Statistical Society of London*, XVI (1853), 201-43, p. 218; R. C. Riley, 'The Industries of Portsmouth in the Nineteenth Century', *The Portsmouth* Papers, 25 (1976); Webb and others, *The Spirit*, chapter 3; Field, *Portsmouth Dockyard*, pp. 3-12.

Figure 5.6: Admissions as a Percentage of Workforce



These years were of course key in the transition to steam and iron. However, making a direct link between this and increased admission levels is challenging. One way to do this is to examine the details surrounding hospital cases. Doing so reveals that prior to 1855, all 64 admissions that can be traced involved injuries sustained by a single man or boy. After this date, multiple admissions from single incidents start to appear, albeit rarely. In particular, accidents involving steam and gas stand out. Accidents which, prior to the building of the steam complex, would not have happened. Moreover, when gas and steam were involved, it was often innocent bystanders that bore the brunt. In March 1855 a gas explosion seriously injured ten of the dockyard's policemen, of whom nine ended up in Haslar and where two later died.[120] Just over a year later, a further eight men were admitted to the hospital following the explosion of the boiler of a steam engine, many with life-threatening scalds.[121]

Whereas naval surgeons might have expected large numbers of casualties in sea battles, it was evidently not something they were prepared for amongst civilian workers or had, up until this date, ever encountered. The sense of horror at the extent and severity of injuries caused by such accidents is palpable in the correspondence that followed the gas explosion of 1855. In his report to Admiral Superintendent Martin, the surgeon in charge described Inspector Stroud as in a 'low sinking state' having received compound, comminuted fractures of both legs, a comminuted fracture of the left thigh and fractures to ribs on his right side near the shoulder resulting in lung damage. He later died following the amputation of his legs. Perhaps most telling of all though is the annotation made to the office copy of the report. In the surgeon's handwriting appears the words 'Stroud and Giles widows get pensions', suggesting that in his mind only now was the case closed.[122]

The years 1855 to 1866 were also significant at Portsmouth because they marked the completion of the dockyard's steam complex and its first decade of full operation before the momentary run-down of activity in 1867. The comparison of admission reports before and after 1855 show that the transformation of the dockyard in terms of its size, facilities and infrastructure not only contributed to the rise in admissions to Haslar, but also brought about a change in the root causes of

injuries requiring hospitalisation. Prior to the completion of the steam complex in 1854, roughly two out of ten admissions to Haslar were directly work-related. The other eight out of ten were the result of some form of interaction between the injured person and the dockyard environment. Of these, approximately 70 per cent were situations where the environment of the dockyard was a 'passive' causal agent. Trips and falls are a prime example of what is meant by this. For instance, in May 1841 Joseph Dyer, a caulker, was admitted to Haslar with a 'considerable injury to his left side' after falling from a stage into the reservoir.[123] In the other 30 per cent of cases, the dockyard environment was the 'active' causal agent. The case of the shipwright William Elliott illustrates this type of cause. In July 1847 he was hospitalised after receiving a severe head injury when a wooden wedge fell on top of him while he was at work in the magazine of '*Royal Frederick*'.[124] After 1854 the number of hospital admissions caused by an interaction with the dockyard environment increased to nearly nine out of ten. However, what is most interesting is that 'passive' interactions declined from 70 per cent to just 44 per cent, while 'active' interactions almost doubled from 30 per cent to 57 per cent. This gives a clear indication that the environment of the dockyard had become more hazardous to work in as well.

5.3: Conclusion

The nineteenth-century Royal Dockyards were vital to the national interest. Ultimately, the Royal Navy's ability to protect overseas trade and the Empire depended on the proper functioning of these establishments. Maintaining the health of their civilian workforces was therefore a very important concern, particularly as naval shipbuilding was both highly skilled and hazardous work. Rather than leave this to chance in the local medical markets of dockyard towns, the Admiralty chose to provide their own system of healthcare. This was funded out of the public purse but was free to all dockworkers. The provision on offer was by no means a token gesture. Larger dockyards enjoyed on-site medical facilities which, as the century progressed, treated more and more types of illness. It would not be going too far to say that the provision at Portsmouth Dockyard amounted to a mini-welfare state.

Partly because of its size and huge workforce, and partly because of the inherent dangers of naval shipbuilding and its allied trades, Portsmouth Dockyard generated occupational ill health on such a scale that it stretched the on-site medical facilities to capacity. So much so in fact that successive heads of the medical department struggled to deliver what was expected of them in terms of managing general sickness amongst the workforce. The occupational ill health caused by the dockyard was predominately physical injuries, the nature of which changed following the introduction of steam and iron. Accordingly, when things went wrong in the naval shipbuilding industry it had the tendency to produce 'bodies on the floor'. For this reason, even if the work had not been of national importance, then the sheer volume of injuries emanating from the dockyard would have been enough to attract attention. This was not the case with Portsmouth's other main area of industrial activity. As we know from chapter two, the dress industries were collectively bigger employers than the dockyard. Yet, because they were dispersed across numerous small workshops, and included many home workers, both the nature and the extent of occupational ill health arising from work in this sector went unnoticed. This highlights an important point about Portsmouth Dockyard and the Royal Dockyards more generally. By collecting huge groups of people together in single industrial complexes they made the impact of industry on workers' health observable. This prompted both an acceptance of the problem on the part of the naval authorities and action to deal with it. Despite having been almost universally neglected up until now, it is evident from this chapter that the Royal Dockyards deserve serious consideration in historical debates about health and the workplace and accidents in the workplace. They also have something to contribute to the broader history of occupational health and industrial diseases. Indeed, the treatment of lead poisoning in the Royal Dockyards suggests that historians have been wrong to locate the starting point of their research in the late Victorian and Edwardian periods.

In terms of understanding the overall development of healthcare in Portsmouth, this analysis of health and the dockyard raises a whole host of wider issues. For example, what was the relationship between state provision in the

dockyard and the private providers that comprised Portsmouth's medical market? How did these two systems of provision interact with one another? We know that the dockyard destroyed demand for doctors in Portsea, but was its impact negative in all segments of the market? Furthermore, we have yet to explore the differences between the two systems of provision. More broadly, we might ask: was it better to be sick in a dockyard town? And, if so, then who was it better for? It is to questions such as these that we now turn in Chapter six.

[1] B. Stapleton, 'The Population of the Portsmouth Region', in *The Portsmouth Region*, ed. by B. Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 83-117 (p. 115).

[2] R. C. Riley, *Portsmouth Ships, Dockyard & Town* (Stroud: Tempus, 2005), pp. 35-41.

[3] R. C. Riley, 'The Industries of Portsmouth in the Nineteenth Century', *The Portsmouth Papers*, 25 (1976), 3-22, (p. 9).

[4] R. C. Riley and J. Chapman, 'The Nineteenth Century' in *The Portsmouth Region* (See Stapleton above), pp. 72-82 (p. 77).

[5] Riley and Chapman, 'The Nineteenth Century', p. 4.

[6] J. Field, 'Portsmouth Dockyard and its Workers 1815-1875', *The Portsmouth Papers*, 64 (1994), 3-22, (p. 10).

[7] *The Spirit of Portsmouth: A History*, ed. by J. Webb and others (Chichester: Philimore, 1997), p. 48.

[8] NMM POR/J/6, 'One Volume of Orders to the Yard Surgeon, 1823 to 1849', Admiralty circular 16 August 1826.

[9] RNM 1983/621-622, 'The Records of the Medical Department, H. M. Dockyard Portsmouth', 12/1-3, Letter Books and Correspondence Files, 1850-1869, letter 9 October 1866.

[10] N. A. M. Rodger, *Naval Records for Genealogists* (London: HMSO, 1988), pp. 31-32.

[11] C. Lloyd and J. L. S. Coulter, *Medicine and the Navy, 1815-1900*, 4 vols (London: Livingstone, 1961), IV, 20-25.

[12] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 23. An understanding of how such training could be gained prior to entering the service can be obtained from A. Digby, *The Evolution of General Practice 1850-1948* (Oxford: Oxford University Press, 1999), pp. 43-48.

[13] N. A. M. Rodger, *The Wooden World: An Anatomy of the Georgian Navy* (London: Fontana, 1986), pp. 20-21. Parity across the services and a general improvement to the status of civilian officers was achieved after the Crimean War. For more details concerning this and the ongoing contemporary debate regarding assistant surgeons in the navy see: Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, pp. 11-20.

[14] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 23.

[15] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 23.

[16] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 23.

[17] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 24.

[18] PRO ADM 104/15, Surgeons' Service Records, Surgeons Vol II, part II.

[19] Cree's service record can be found in ADM 104. However, his journals provide a far greater insight into his career and experience prior to joining the dockyard: *The Cree Journals: The Voyages of Edward H. Cree, Surgeon R.N. as Related in His Private Journals, 1837-1856*, ed. by M. Levien (Exeter: Webb & Bower, 1981).

[20] J. Watt, 'Surgery at Trafalgar', *Mariner's Mirror*, 19 (2005), 266-281.

[21] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 20.

[22] *The New Navy List*, January 1847.

[23] For a breakdown of naval pay scales at various intervals across the period 1818-1862 see: M. Lewis, *The Navy in Transition: A Social History, 1814-1864* (London: Hodder and Stoughton, 1965), pp. 212-213.

[24] PRO ADM 181/79, Navy Board and Admiralty: Navy Estimates, 1868-1869.

[25] A. C. Doyle, *Memories and Adventures: Oxford Letters and Memoirs* (London: Hodder and Stoughton, 1924; repr. Oxford: Oxford University Press, 1989), p. 70.

[26] *The Navy Lists*, 1855-1879.

[27] *The Navy Lists*, 1880-1900.

[28] Field, 'Portsmouth Dockyard', p.7.

[29] Between 1806-1832 the navy had no distinct medical department. Instead responsibility for medical affairs came under the Transport Board 1806-1817 and then, following its abolition, the Victualling Board. The situation was rectified following reforms made by Lord Graham who was appointed First Lord of the Admiralty in November 1830. These established the 'Physician of the Navy' as one of the five Principle Officers or Lords of the Admiralty. By 1843, the title had changed to 'Director-General of the Medical Department of the Navy'. See Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p.2. Evidence of how this chain of command operated in practice between Admiralty, Admiral Superintendent and head of the dockyard medical department, can be clearly discerned in: NMM POR/J/6, One Volume of Orders to the Yard Surgeon, 1823 to 1849.

[30] RNM 1983/621-622, 12/1-3, Report 13 November 1860.

[31] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 194.

[32] NMM POR/J/6, Letter 15 March 1827.

[33] RNM 1983/621-622, 12/1-3, Letter 29 July 1865.

[34] NMM POR/J/6, various items of correspondence March 1827.

[35] J. M. Haas, 'Work and Authority in the Royal Dockyards From the Seventeenth Century to 1870', *Proceedings of the American Philosophical Society*, 124 (1980), 419-428, (p. 421).

[36] Prior to 1806 the 'Sick and Hurt Board' was responsible for the health of seaman: P. K. Crimmin, 'The Sick and Hurt Board and the Health of Seamen c. 1700-1806', *Journal for Maritime Research*, December (1999), 1-17.

[37] Haas, 'Work and Authority', p. 421.

[38] RNM 1983/621-622, 12/1-3, Letter 20 June 1867.

[39] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, p. 48.

[40] C. Singer, *A Short History of Medicine* (Oxford: Clarendon Press, 1928), p. 235.

[41] NMM POR/J/6, General Order 26 June 1848.

[42] R. Cooter, 'Medicine in War', in *Medicine Transformed: Health, Disease and Society in Europe, 1800-1930*, ed. by D. Brunton (Manchester: Manchester University Press, 2004), pp. 331-363, (pp. 351-352).

[43] NMM POR/J/6, Letter 8 March 1849.

[44] NMM POR/J/6, Letter 29 September 1847.

[45] NMM POR/J/6, Letter 29 September 1847.

[46] NMM POR/J/6 & RNM 1983/621-622, 12/1-3 are both littered with requests for the surgeon to visit and provide an update on the situation regarding patients who are absent from work through sickness as opposed to HURTS.

[47] NMM POR/J/6, Letter 29 September 1847.

[48] RNM 1983/621-622, 1/1-30, Case Books, 1866-1918. The case book for 1866 contains a series of notes covering the period February 1866 to November 1866 in which the surgeon's management of various ongoing cases is recorded.

[49] NMM POR/J/6, Letter 29 September 1847.

[50] RNM 1983/621-622, 12/1-3, Letter 8 December 1851.

[51] At the start of the nineteenth century medical supplies were procured from the Transport Board Medical Department. After the Transport Board was abolished in 1816, responsibility transferred to the Victualling Board Medical Department, where it remained until 1832. Between 1833 and 1869 orders for medicine and medical supplies were sent to the Comptroller of Victualling and fulfilled after approval had been gained from the Medical Director-General of the Medical Department of the Navy. From 1870 the Medical Director-General took over the responsibility for procuring and maintaining central supplies. The workings of this system can be pieced together from exchanges noted in: NMM POR/J/6 and RNM 1983/621-622, 12/1-3. The office files of the dockyard medical department are helpful for understanding the system after 1869. See in particular: RNM 1983/621-622, 13/1-2 Office Files, 1865-1879, Admiralty Memorandum 17 May 1870. In all three sources, no evidence was found of the dockyard placing any orders locally.

[52] RNM 1983/621-622, 12/1-3, Letter 26 November 1851.

[53] NMM POR/J/6, Order 18 July 1827.

[54] RNM 1983/621-622, 12/1-3, Letter 8 December 1851.

[55] RNM 1983/621-622, 12/1-3, Letter 8 December 1851.

[56] RNM 1983/621-622, 1/1-30, Case book 1866.

[57] N. A. M. Rodger, *The Admiralty* (Lavenham: Dalton, 1979), pp. 98-104.

[58] Field, 'Portsmouth Dockyard', p. 12.

[59] NMM POR/J/6, Copy of letter 14 May 1841, sent by the Admiralty to the Admiral Superintendent of the Yard.

[60] Field, 'Portsmouth Dockyard', p. 12.

[61] As others have noted, the doctor as an expert witness was a facet of medical practice which expanded during the nineteenth century. This occurred, for example, in criminal trials and in providing evidence to various Parliamentary investigations, such as the Sadler Committee: S. Landsman, 'One Hundred Years of Rectitude: Medical Witnesses at the Old Bailey, 1717-1817', *Law & History Review*, 16 (1998), 445-494; K. D. Watson, 'Medical and Chemical Expertise in English Trials for Criminal Poisoning, 1750-1914', *Medical History*, 50 (2006), 373-390; Bartrip, P. W. J. *The Home Office and the Dangerous Trades: Regulating Occupational Disease in Victorian and Edwardian Britain*, The Wellcome Series in the History of Medicine, 68 (Amsterdam: Rodopi, 2002).

[62] NMM POR/J/6, Copy of letter 14 May 1841, sent by the Admiralty to the Admiral Superintendent of the Yard.

[63] RNM 1983/621-622, 12/1-3, Medical Report on Mr Grant Smith, 1865 (thought to be March).

[64] *Navy List*, January 1866.

[65] J. Lane, *The Making of the English Patient: A Guide to Sources For the Social History of Medicine* (Stroud: Sutton, 2000), pp. 92-116. For a comparison between early case books kept by individual doctors and the systematic recording by nineteenth-century institutional healthcare providers see: S. T. Anning, 'A Medical Case Book: Leeds, 1781-1784', *Medical History*, 28 (1984), 420-431; J. Andrews, 'Case Notes, Case Histories, and the Patient's Experience of Insanity at Gartnard Royal Asylum, Glasgow, in the Nineteenth Century', *Social History of Medicine*, 11 (1998), 255-281.

[66] Rather than representing progress, it could be regarded as a means by which dockyard surgeons reinforced their power over dockworkers as patients: M. Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (London: Tavistock, 1973).

[67] NMM POR/J/6, Letter 16 June 1830.

[68] NMM POR/J/6, Circular 25 October 1830.

[69] The same also applied to the medical officers at H.M. Dockyard, Chatham: D. S. Wright, 'The History and Development of the Medical Services of H. M. Dockyard, Chatham, 1625-1966', *Journal of the Royal Naval Medical Service*, 54 (1968), 25-68 (p. 48).

[70] By the nineteenth century, prevention was a well-established tenet of naval medicine: P. K. Crimmin, 'British Naval Health, 1700-1800: Improvement Over Time?' in *British Military and Naval Medicine 1600-1830*, ed. by G. L. Hudson, The Wellcome Series in the History of Medicine, 81 (Amsterdam: Rodopi, 2007), pp. 183-200.

[71] RNM 1983/621-622, 13/1-2, Admiralty Circular 20 April 1865.

[72] Examples can be found in: NMM POR/J/6, Memo 8 December 1828; Letter August 1849.

[73] NMM POR/J/6, Letter 10 March 1849.

[74] Lloyd and Coulter, *Medicine and the Navy, 1815-1900*, especially chapters VI, XII & XIII. Naval Surgeons also wrote extensively on the subject: Bartrip, *The Home Office and the Dangerous Trades*, p. 14. Mathias argues that the work and findings of military and naval doctors during the eighteenth century were an important precursor to the nineteenth-century public health movements: P. Mathias, 'Swords and Ploughshares: The Armed Forces, Medicine and Public Health in the Late Eighteenth

Century', in *The Transformation of England: Essays in the Economic and Social History of England in the Eighteenth Century*, ed. by P. Mathias (London: Methuen, 1979), pp. 265-287.

[75] N. A. M. Rodger, *The Command of the Ocean* (London: Penguin, 2005), p. 486.

[76] RNM 1983/621-622, 12/1-3, Letter 31 December 1864.

[77] W. G. Gates, ed. *City of Portsmouth Corporation Records: 1835-1927* (Portsmouth: Charpentier, 1928), p. 75.

[78] Riley, *Portsmouth Ships, Dockyard & Town*, pp. 35-36.

[79] E. A. M. Laing, 'Steam Wooden Warship Building in Portsmouth Dockyard, 1832-52', *The Portsmouth Papers*, 42 (1985), 3-26, (p.9).

[80] Recent contributions include: D. K. Brown, *Warrior to Dreadnought: Warship Development 1860-1905* (London: Chatham Publishing, 1997); D.K. Brown, *Before the Ironclad: The Development of Ship Designs Propulsion, and Armament in the Royal Navy, 1815-1860* (London: Conway Maritime, 1999); D. Evans, *Building the Steam Navy: Dockyards, Technology and the Creation of the Victorian Battle Fleet* (London: Conway Maritime, 2004).

[81] Riley, *Portsmouth Ships, Dockyard & Town*, p. 35.

[82] Evans, *Building the Steam Navy*, p. 9.

[83] Evans, *Building the Steam Navy* p. 9.

[84] Riley, 'The Industries', p. 9.

[85] Rodger, *The Wooden World*, p. 103.

[86] High incidences of hernias were also a concern in the Army. As a consequence, the military authorities undertook similar testing: P. R. Mills, 'Privates on Parade: Soldiers, Medicine and the Treatment of Inguinal Hernias in Georgian England' in *British Military and Naval Medicine 1600-1830*, ed. by G. L. Hudson, The Wellcome Series in the History of Medicine, 81 (Amsterdam: Rodopi, 2007), pp. 149-182.

[87] NMM POR/J/6, Order 6 December 1828.

[88] NMM POR/J/6, Memo 26 November 1830.

[89] NMM POR/J/6, Circular 12 February 1827.

[90] Wright, 'The History', p. 40.

[91] NMM POR/J/6, Memo 14 July 1827.

[92] NMM POR/J/6, Letter 3 September 1830.

[93] NMM POR/J/6, Report 1 June 1830.

[94] Wright, 'The History', p. 43.

[95] RNM 1983/621-622, 12/1-3, Letter 21 November 1866.

[96] Wright, 'The History', p. 40.

[97] Wright, 'The History', p. 40.

[98] RNM 1983/621-622, 1/1-30, Case Book, 26 November 1866.

[99] RNM 1983/621-622, 12/1-3, Report 30 January 1853.

[100] RNM 1983/621-622, 12/1-3, Letter 11 July 1868.

[101] RNM 1983/621-622, 1/1-30, Case Book, 25 April 1871.

[102] RNM 1983/621-622, 1/1-30, Case Book, 3 March 1871.

[103] RNM 1983/621-622, 1/1-30, Case Book, 12 April 1871.

[104] RNM 1983/621-622, 12/1-3, Letter 23 March 1859.

[105] RNM 1983/621-622, 12/1-3, Letter 3 August 1868.

[106] As the royal dockyards were on land owned by the crown they fell outside this legislation: D. S. Wright, 'Training in Occupational Medicine in the Royal Navy – A Personal View', *Journal of the Royal Navy Medical Services*, 71 (1985), 9-14, (p. 10).

[107] Bartrip, *The Home Office and the Dangerous Trades*, pp. 20-34.

[108] Wright, 'The History', p. 38.

[109] C. Holdsworth, 'Dr John Thomas Arlidge and Victorian Occupational Medicine', *Medical History*, 42 (1998), 458-475, (p. 459).

[110] Bartrip, *The Home Office and the Dangerous Trades*, pp. 5-6.

[111] Bartrip, *The Home Office and the Dangerous Trades*, p. 6.

[112] See also: D. S. Wright, 'Man-made Mineral Fibres: A Historical Note', *Journal of the Society of Occupational Medicine*, 30 (1980), 138-140. This deals with the royal dockyards in respect of chest complaints and the inhalation of dust of Cotton Silicate, 1891. Cotton Silicate was used to provide a non-conducting covering for boilers and steam pipes.

[113] RNM 1983/621-622, 12/1-3, Letter 16 October 1867. Further instances appear in surgeons' case books after 1870.

[114] RNM 1983/621-622, 12/1-3, Letter 8 May 1867.

[115] RNM 1983/621-622, 13/1-2, Admiralty Circular D1061, July 1873.

[116] NMM POR/J/6, Copy of Order 24 April 1815.

[117] The Earl of Sandwich used this phrase in his request to the Crown (26 October 1741) for the building of three naval hospitals. Quoted in C. Lloyd and J. L. S. Coulter, *Medicine and the Navy, 1714-1815*, 4 vols (London: Livingstone, 1961), III, 194.

[118] Rodger, *The Wooden World*, p. 110.

[119] Lloyd and Coulter, *Medicine and the Navy, 1714-1815*, p. 211-218 & appendix A, 371.

[120] RNM 1983/621-622, 12/1-3, Report 25 March 1855.

[121] RNM 1983/621-622, 12/1-3, Letter 6 April 1856.

[122] RNM 1983/621-622, 12/1-3, Report 25 March 1855.

[123] NMM POR/J/6, Admission Report 28 May 1841.

[124] NMM POR/J/6, Admission Report 28 July 1847.

Chapter Six

The Anatomy of Healthcare Provision

It has been established that like most other towns and cities at the time, healthcare in nineteenth-century Portsmouth was organised along tri-partite lines. There was a diverse range of providers in the private sector who, in this thesis, are considered to form the medical market. Outside of the market were the state and charitable sectors. State provision was available via the poor law, the Royal Dockyard, and various military and naval establishments, notably Haslar Hospital. Major charitable providers included the general dispensary and, after 1848, the Royal Portsmouth, Portsea and Gosport Hospital. Although this state of affairs was entirely to be expected, it is at this point that Portsmouth diverges from the secondary literature. Contrary to what might have been anticipated, economics was by no means the singular most important influence on the way overall provision developed. Instead war, peace and even the threat of war, all played a key part as well. The main reason for this was Portsmouth's strategic importance; whatever happened locally had potentially wider implications for national security. As a consequence, state provision was far more comprehensive than in other places. In Portsea it was arguably more dominant than the private sector. Without the emergence of Southsea as a popular resort, it is possible that Portsmouth's medical market would have struggled to attain the kind of prominence one would have forecast from the historiography.

The previous chapters have also given us a more specific appreciation of how Portsmouth's medical market and aspects of its state sector developed. Chapter three mapped the geographical extent of the medical market, noting how the distribution of providers (doctors and chemists) differed across the four towns. Chapter four examined how these, and other private providers, responded to sources of demand. Where possible, findings were also linked to the historical geography. The chronological development of the medical market was then traced and related to Portsmouth's demography, spatial growth and significant events in the port's

history. This revealed how the character of the medical market, as well as the mix of private providers that made it up, could vary considerably between different localities. It also identified a connection between growing employment in the Royal Dockyard and the decline of some segments of the medical market in Portsea. Chapter five focused on occupational ill health in the dockyard and the state provision that was available via this establishment, showing how the latter became increasingly comprehensive. It was argued that as providers, the Admiralty and the dockyard medical department were innovative and forward-thinking, being both proactive and reactive in their efforts to meet the healthcare needs of dockworkers. This included following a preventative agenda at a central and local level.

To complete the analysis, we now need to get to grips with how the sectors worked in order to deliver healthcare to the people of Portsmouth. The current scholarship is far from robust in this respect. Although at a national and regional level historians have begun to trace the extent of provision in each sector, relatively little is known about their collective operation at a local level. The historiography is similarly unenlightening about the way in which patients traversed the different sources of healthcare provision. In both cases, research at a micro-level has tended to concentrate on particular sectors or providers within sectors rather than adopting a more holistic view of provision.[1] This chapter attempts to broaden our understanding in these areas, by developing a model which can be used to gauge and explain the medical market's size and importance in relation to the overall healthcare offering in any given locality. This is achieved by exploring ways in which the state and charitable sectors related to the medical market; the differences between the three sectors as sources of healthcare; how patients engaged with each of them under normal circumstances. The chapter then concludes with a case study of the 1849 cholera epidemic in Portsmouth, which examines how provision responded to the pressure caused by sudden upsurges in demand, or, as economists would say, an exogenous shock. If we really want to understand how the market and provision as a whole worked, then it is important to see how the sectors reacted to a crisis.

6.1: The Everyday Provision of Healthcare

Connections: State and Charity to Medical Market

The burgeoning literature on nineteenth-century healthcare contains no explicit definition of the 'medical market'. This has not, however, prevented the term from embedding itself in the common vocabulary of medical historians. In general, usage is loose, often making it unclear exactly what is being referred to: private-sector providers, or state and charitable ones as well. Essentially, 'medical market' has become little more than a shorthand for describing any aspect of healthcare development and/or the arena in which providers and consumers met (physically or otherwise), without adequate consideration being given to the basis of their relationship and whether or not it was economic.[2] Such imprecision leads to confusion, but this lack of clarity is also understandable. Even though this thesis has treated the state and charitable sectors as outside of the medical market (on the basis that they provided free healthcare to patients and at point of delivery no commercial relationship existed between provider and consumer), the fact remains that all three sectors were closely linked. At a fundamental level they all strived towards at least one common objective: to provide people with healthcare. There were many other connections too. Poor law unions for example, often subscribed to voluntary hospitals so that they could send patients to these charitable institutions when outdoor medical relief failed or was deemed inappropriate.[3] This practice even occurred in places with workhouse infirmaries and certainly did in Portsmouth.[4] However, as we are primarily interested in Portsmouth's medical market and how it might have been affected by the presence of state and charitable providers, it makes sense to start by focusing on doctors and patients. At ground level, these were the common denominators across all three sectors.

Although there were some full-time medical posts with both state and charitable providers, most doctors were self-employed. As we saw in chapter four, it was usual for them to construct their income from a variety of sources. The most obvious was from private practice, where patients came to them either independently

or were seen as part of a contract held by the doctor with a friendly society or the like. Part-time work in the state sector, such as parish surgeon, also constituted an important income stream for many practitioners.[5] In addition, some doctors contemporaneously held unpaid positions in the charitable sector. Posts at dispensaries and voluntary hospitals were particularly sought after. Historians generally agree that this was because they enhanced doctors' public and professional profiles and presented them with a range of opportunities for furthering private practice.[6] In Portsmouth there were two other ways in which the state and private sectors related to one another at this level. Firstly, many doctors in the port started out as naval surgeons before going on to practise privately. Secondly, there were varying numbers of half-pay naval surgeons who, despite being civil servants, also saw patients on a private basis.

These circumstances fostered a degree of co-operation in the everyday provision of healthcare, especially between the dockyard and the medical market. Even though the Admiralty refused to purchase drugs and medical supplies locally and forbade medical officers at the dockyard from practising privately, they were powerless to prevent 'leakage' at the sharp end. Indeed, there are indications that the relationship between the dockyard and the medical market had considerable depth. When a new messenger was required for the dockyard's medical department in May 1854, the surgeon in charge was quickly able to identify a potential candidate. The man concerned was 28 years old, and had been brought up in and was now employed at, a local chemist and druggist's shop. The surgeon also knew that he had spent a period attached to a hospital.[7] Recruitment from the private sector was not, in itself, unique – later in the century a local doctor was appointed to provide cover for the dockyard extension works.[8] But, what this case reveals, is the intimate knowledge that surgeons at the dockyard had of the local medical market and those that worked in it.

Everyday interaction between the dockyard's medical department and the medical market took many different guises. Especially during busy periods, the former would enlist the help of private orthodox practitioners, hiring them to see patients who were on the SICK list, but lived long distances away.[9] Though the

Admiralty almost certainly frowned upon this, they appear to have grudgingly accepted the situation. Rather than forbidding the practice, they preferred to keep it in check by using tactics such as quibbling over the payment of doctors' bills.[10] Dockyard surgeons were also very respectful of their colleagues in private practice and worked with them from time-to-time where mutual patients were concerned. This tended to occur most where dockworkers were SICK as opposed to HURT. The case of the shipwright, James Moore, was fairly typical. While absent from work with an abscess, he was attended by his own private doctor and the dockyard surgeon. Although under the circumstances it would be perverse to call Moore 'lucky', joint management of his case did lead to the underlying cause of his abscess being identified quickly. Both practitioners were in agreement that he was suffering from a 'disease of the bones'.[11] Perhaps rather uniquely to Portsmouth, this type of collaborative interaction between 'state' and 'private' also applied to cases involving affluent patients. The example of Captain Hamilton, a student at the Royal Naval College who became ill several months after undergoing an operation, illustrates this well. As a Royal Navy Captain, social convention dictated that he should consult a private practitioner. When this avenue failed to restore his health, he turned to the dockyard surgery. In the dockyard surgeon's subsequent report to the superintendent of the college, he recommended that Hamilton should momentarily suspend his studies. Like the other 'medical gentlemen' involved, he concurred that: 'a change of air, and less sedentary occupations are absolutely necessary for his restoration to health'.[12] From the point of view of patients, this type of close interaction potentially had economic as well as curative and therapeutic benefits. Even though dockworkers who were SICK were not entitled to free healthcare, they were still regularly examined by the yard's medical officers. As we have noted, this could lead to close liaison with any private doctor in attendance. In effect, sick dockworkers were able to access the state sector and see a private doctor simultaneously, getting a second opinion along with additional professional medical input without actually having to pay for it.

Beyond the dockyard, not all interaction between the state sector and providers in the medical market was of a co-operative nature. Where the poor law

was concerned, considerable power rested in the hands of lay officials, notably the Board of Guardians. This body had few qualms about exploiting the medical market when circumstances permitted. As is well-documented, whenever possible they drove very hard bargains with private practitioners when recruiting for posts such as parish surgeon or union medical officer.[13] There are even instances where Boards of Guardians went as far as to foster friendly society medical clubs in order to relieve the rates.[14] This was nothing short of healthcare on the cheap. Doctors sought positions with friendly societies because they were a reliable source of income and provided some security against downturns. However, the actual remuneration from contract practice was generally considered to be inadequate. It has even been argued that it constituted a form of charitable relief directly out of the doctor's pocket.[15] When Boards of Guardians became involved, this quickly led to practitioners being overworked and, in some cases, to unmerciful 'sweating'.[16] This was because there were few, if any, restrictions on friendly society membership. Hence doctors were expected to treat 'whatever patients the society chose to allot him'.[17] It is also possible to think about half-pay naval surgeons in a similar context. For the majority, half-pay did not amount to a living wage. But, as the civilian doctors of Portsmouth were keen to point out, it did give them a commercial advantage in the medical market. In effect, the state were retaining medical staff, but only picking up half of the bill for doing this. In terms of access to healthcare, patients almost certainly benefited from these types of stresses between the sectors. Their impact on the quality of healthcare dispensed, especially through the poor law is, of course, much more debatable.

There was also tension between the medical market and the charitable sector. From the early decades of the nineteenth century, right through to the establishment of the National Health Service, doctors from all over the country were critical of the voluntary hospital movement.[18] Most vociferous were those running lower-end general practices treating the labouring and lower-middle classes. These practitioners believed that they were robbed of business by the lack of rigidly enforced eligibility criteria for medical charity. In 1853, the *British Medical Journal* took up the issue, declaring that: 'Gentlemen's servants, clerks and well-to-do

tradespeople with their wives and children absolutely encumber the waiting-rooms of the London hospitals'.[19] In the same year the British Medical Association claimed that the abuse of dispensaries and outpatient departments at voluntary hospitals by people who could really afford to pay, reduced the earnings of all orthodox practitioners within the catchment area of the hospital.[20] The extent to which this occurred in Portsmouth is not immediately clear. From chapter three we know that doctors were drawn to the vicinity of the Royal. However, as chapter four showed, they generally found it difficult to establish a successful practice in Landport where the Royal was located. The bulk of Landport's population was also labouring class.

The Sectors: Differences, Patient Access and Patient Pathways

Despite being closely linked at the level of doctors, there were important differences between the medical market and the other sectors in terms of their organisation, who and what each treated, and the actual nature of the healthcare each offered. Even after key legislation such as the Medical Act of 1858, the medical market remained largely unregulated throughout the nineteenth century.[21] At a local level, it was also disorganised. Comprised of all sorts of different, competing providers, the medical market presented patients with a bemusing array of healthcare options. In Portsmouth, although geographical imbalances in the distribution of the various types of private providers caused issues around access, entry to the medical market was primarily determined by economics. As we know, different segments of the market had different economic entry points. Chemists and the vendors of patent medicines for example, offered relatively cheap healthcare products and so were widely accessible. Conversely, the segment occupied by doctors was more difficult for people to engage with on an independent basis. Once entry to the market had been 'purchased' though, there were no other criteria for the patient to fulfil in order to receive healthcare. Moreover, it was also possible for patients to patronise different segments of the market simultaneously. Although no specific evidence of this happening has been found for Portsmouth, the regularity with which patients behaved in this manner is well-established in the secondary literature.[22]

In contrast, state provision via the dockyard was much better organised. The medical department also had a defined place within the hierarchical structure of the Royal Navy.[23] There were other differences too. At the dockyard, the patient's economic circumstances played no part in the decision to provide healthcare. Instead, access was assured provided the applicant could demonstrate that their injury or illness had been caused by their employment. This said, it is apparent from the medical department's records that moral considerations also had a bearing on how cases were dealt with. The impact on the patient was potentially great. In his report to the Admiral Superintendent concerning the admission to Haslar Hospital of Richard Treadingham, a labourer with a fractured leg, the surgeon noted: 'he is one of the best, and hardest working men in the yard, and stands high in the estimation of his officers'.[24] The implication of this and the many other similar comments that accompany hospital admission reports, is that if patients were unable to persuade the surgeon that they were of good character, then access to this level of care and treatment was less likely.

With such criteria in play, the balance of power between provider and consumer was clearly different than in the medical market.[25] Similarly, once access had been granted to the state sector, the patient had little say in who treated them or what treatment they received. Patients were not, however, powerless or passive. Whereas in the medical market the patient purchased healthcare, in the dockyard they had to establish a right to it. Gaining access was all about a negotiation between the medical officer and patient. The case of the dockworker John Hobbs which was used to open this thesis, provides an illustration of the process in operation. In the case of injuries it was usually fairly straight forward to establish eligibility. For other forms of illness it was much more difficult. This presented dockworkers with a system that they could 'play', leading some to falsely assert that their sickness had been caused by the dockyard in order to avoid having to pay for a private practitioner. They also lied about the causes of injuries for the same reason. Just how widespread this practice was is impossible to say, as successful attempts to cheat the system obviously appear in the records as 'genuine' cases. However, official concerns about false claims and more general abuse of the SICK and HURT system

appear often enough in the archives to suggest that it was an ever present problem faced by the medical officers.[26] For our purposes what is important is that it tells us something about the ways in which at least one group within the population traversed the healthcare sectors in Portsmouth. For many dockworkers, it is abundantly clear that engaging with the medical market and specifically the segment of the market occupied by doctors was a last resort. In effect, they were prepared to trade consumer power for free treatment.

State provision via the poor law was also more organised than the medical market. Following the Poor Law Amendment act of 1834, this was overseen at a local level by the Poor Law Guardians who were elected by local ratepayers and property owners.[27] The Board of Guardians dealt with the recruitment of medical officers. Additionally, they had an involvement in the development and maintenance of local state-run medical facilities. In Portsmouth these included the workhouse infirmary, the Borough of Portsmouth Lunatic Asylum and the Infectious Diseases Hospital at Milton. The relieving officer, who assessed applicants for relief also had an influence on the form this relief took and whether it was provided 'outdoor' or within an institutional setting.[28] Economics played a key part in decisions: in all cases the patient needed to demonstrate to the guardians that they were unable to afford the cost of treatment themselves. As with the dockyard, there was also an underlying moral dimension to applications, with patients who were considered of good character being looked upon favourably. This particular aspect of the process was dynamic; it varied by region and over time according to prevailing sentiments towards the poor.[29] As such, it contributed to a system in which patients had a degree of agency. As historians such as Steven King and Thomas Sokoll have so clearly demonstrated, applicants for poor relief in general would posture and employ a whole range of rhetorical devices in order to negotiate relief.[30]

The charitable sector displayed characteristics found in both the medical market and the state sector. Like the former, the range of providers was diverse.[31] Apart from the Royal, the bulk of them in Portsmouth were small in size and often lasted only a matter of years. The Southsea Home for Sick Children is a typical example. Although this charity's records have not survived, data taken from trade

directories and local newspapers indicates that the home was founded around 1879 and managed to keep going for roughly a decade.[32] At its peak it provided healthcare to approximately 100 children per year.[33] Charitable provision across Portsmouth was also unorganised, which was common in this period. In the last quarter of the century attempts were made in other parts of the country to co-ordinate charitable work with poor relief, however the crusading activities of the Charity Organisation Society missed Portsea Island altogether.[34]

Individual medical charities employed their own rules about who was eligible to receive relief. Some, such as St John's Convalescent Home for Men and Boys and the aforementioned home for sick children, were exclusive by their very nature.[35] In general though, the economic and moral criteria employed in the charitable sector matched those in operation under the poor law. The Royal illustrates this well. It is also worth looking more closely at this hospital because, based on the numbers of people it treated each year, this charitable provider was far and away the most important in all of Portsmouth. As with other voluntary hospitals, the Royal was fully reliant on charitable donations to finance its day-to-day running costs, maintenance and ongoing development. Annual subscribers were accorded the privilege of recommending patients to the hospital, with the number they could send varying according to the size of their subscription. When the hospital opened in 1849, those making subscriptions of up to £1 per annum were allowed to recommend two outpatients, while a subscription of £5 and above permitted two in-patients and eight outpatients.[36] These rates remained unchanged throughout the century.[37] Except in emergency cases, people seeking admission were supposed to obtain a letter of recommendation or 'ticket' from one of the subscribers. For their part, subscribers had to ensure that the prospective patient was not already in receipt of parochial relief and satisfy themselves that the individual was a 'suitable object of charity' who could not afford the cost of treatment themselves.[38] As with state providers, access was thus partly a matter of negotiation. The final say regarding admission and combination of treatment rested with the hospital. Although the relevant records for the Royal no longer exist, it was normal for voluntary hospitals to exclude certain categories of patient, such as women in an advanced state of

pregnancy and children under the age of seven, except in cases of severe accident.[39] If the Royal matched the experience of other nineteenth-century provincial voluntary hospitals then it would also have had a general policy of restricting admission to what were deemed 'curable cases'.[40] Exclusions under this category generally lessened over time, being determined largely by the limits of contemporary medicine and the need to show existing and potential subscribers that the hospital was capable of delivering successful and cost-effective healthcare where it was most needed.[41]

On the face of it then, the Royal might be seen as an exclusive provider. Yet, despite what at first appears to be rather limiting admission criteria, patient statistics from surviving annual reports tell a completely different story. These clearly show that patient numbers rose exponentially in relation to the list of subscribers. From a starting point of 1,546 patients in 1849, the number had reached 10,242 by 1895.[42] The largest increases were experienced in the outpatients' department and in particular amongst patients who were treated despite lacking the appropriate letter of recommendation.[43] By the 1890s this group, which the hospital had begun to categorise as 'casual patients without recommendation', constituted almost 50 per cent of the department's work. In 1895 for example, of the 8,816 patients it treated, 3,380 came without a 'ticket'.[44] Essentially, people were just turning up at the Royal and taking their chances, mirroring the situation in the waiting rooms of London's hospitals. From the point of view of negotiating access, this tactic would have placed the patient in a strong position. By going direct, their financial circumstances probably underwent less scrutiny. Furthermore, the very sight of a suffering person is a powerful image that appeals directly to the emotions, making it very difficult for medical staff to turn away genuine cases. Sadly, the social characteristics of the Royal's 'casual patients' will never be known.[45] The admission registers themselves have not survived and in the hospital's annual reports all that is recorded is patient numbers. However, what these records do tell us is that a sizeable proportion of the population went to this charitable provider in preference to employing a doctor privately. Dockworkers were evidently not the only group in Portsmouth who were prepared to forfeit their power as consumers in return for free healthcare.

An examination of the list of subscribers to the Royal allows us to take the analysis further. Two things in particular stand out. Firstly, increasing numbers of friendly societies appeared as subscribers. The Ancient Order of Foresters for example, who had a large presence in the Portsmouth area, had no fewer than six separate branches or 'courts' listed by 1890.[46] This can be interpreted as the development of an early referral system for doctors, giving those privately employed by friendly societies the option to send patients that needed specialised treatment or care to a hospital. Of course, this sits well with the broader historiography, which suggests that by the late-nineteenth century hospitals had come to be universally seen as sites of medical expertise - both through the key role that they played in medical teaching and through their associations with high-profile practitioners.[47] For our purposes though, it reveals a further route by which patients could move across the sectors, effectively by-passing the doctors' segment of the medical market in the process.

Secondly it is noticeable that more and more groups of employees from local businesses were clubbing together and subscribing to the Royal as well.[48] Most of these subscriptions were for between £1 and £2 per annum, which permitted one in-patient or four outpatients to be recommended during the course of the year. Others, such as those paid by employees from Chilcott & Williams, the stay-making factory, were much larger. Their £3.15.7. allowed for one in-patient and eight outpatients.[49] This form of self-help is clear evidence of the labouring classes using collective action to access healthcare from a charitable provider. The economics of it were simple. If we work on Marland's mid-century estimate that a single visit by a doctor cost in the region of 5*s*. excluding medicines, then it is immediately obvious why a £1 yearly subscription shared amongst a small group of employees was an attractive alternative.[50] Most striking however, are the subscriptions that emanated from the dockyard. By 1890 no less than five groups were listed. Of these, men from the Gun Mounting Shop contributed £2.10*s*, the caulkers £3.6.1. and the Coppersmiths' Shop £6.12.9.[51] This allowed the latter group to send two in-patients and eight outpatients or alternatively sixteen outpatients each year. Given that we know some dockworkers made false claims hoping to access state provision, the fact that groups

of them also subscribed to the Royal suggests yet a further step before they had to resort to the medical market. In terms of mapping how patients traversed the various sectors this is very interesting. Although ultimately impossible to prove, the implication is that in some cases, if attempts to get free healthcare at the dockyard failed, then the Royal was used as a fall back position before it became necessary to employ a doctor independently.

A Model of Local Healthcare Provision

The above discussion has begun to unlock ways in which the medical market was influenced by the presence of state and charitable providers. It is possible to present this in a visual format, providing us with a theoretical model to explain the market's size and relative importance within the overall healthcare offering. There is no precedent for this in the secondary literature. Until now scholars have emphasised understanding how the various sectors related to one another at a macro-level. Though more than three decades old, the model proposed by the sociologists Parry and Parry has seen no material alteration. In their analysis of the relationship between the private and charitable sectors, they contended that the elite in the medical profession sought honorary positions at voluntary hospitals as it provided them with a means to control the medical market. This accords well with how historians have subsequently understood the function of honorary positions.[52] According to Parry and Parry's argument, control in the market was achieved in several ways. Firstly, by deciding on admission policies and by only accepting 'curable' cases, senior doctors were seen in a good light in hospital annual reports, which in turn attracted affluent people to their private practices. Secondly, as hospitals began to play an increasingly important role in medical education, it enabled the same doctors to control entry to the profession, whilst at the same time making money from student fees and laying the groundwork for future patient referrals.[53]

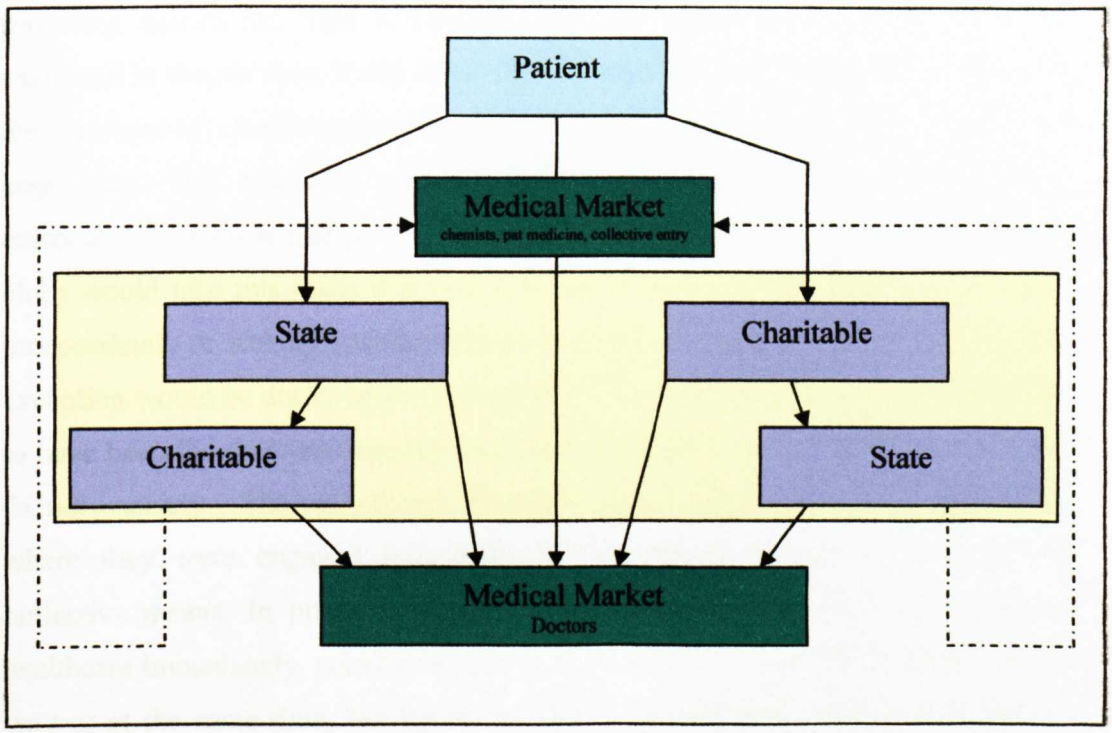


Figure 6.1 Model of Local Healthcare Provision

As can be seen from figure 6.1 above, the model presented in this thesis is different to that proposed by Parry and Parry. Not only is it focused at a local level, but it also attempts to understand the medical market's position in relation to other providers by tracing patient pathways to it through the overall healthcare system. These are represented by the arrows which link the boxes on the model together. At the head of the model is the patient, who we pick up at the point where they have decided to seek treatment from a healthcare provider. Prior to this they may have dosed themselves, sought help from family and friends or, indeed, done nothing at all, hoping that they would eventually get better.[54] The patient had essentially three choices. They could buy healthcare in the medical market, or attempt to secure it free of charge from a state or charitable provider.

Starting with the medical market, it will be noted that this has been split into two boxes. The first of these, which has been given precedence, includes the economically most accessible private providers: chemists, patent medicine sellers,

travelling quacks etc. This is because when the chronology of the market was examined in chapter four, it was found that this segment was widely patronised, with the numbers of chemists showing a direct correlation to changes in size of the population. This box also encompasses collective entry to the market. It is reasonable to assume that patients who were members of friendly societies or sick clubs would take this route if it was available to them, above employing a doctor independently or seeking healthcare from state and/or charitable providers. The only exception would be dockworkers injured at work, whose first port of call was likely to have been the dockyard surgery, regardless of whether or not they belonged to a friendly society. The second box represents the doctors' segment of the market, where they were engaged independently by patients, as opposed to through collective means. In practice, affluent patients would have sought this form of healthcare immediately, possibly engaging with other segments of the market on the way or at the same time, but by-passing state and charitable providers altogether. This was not necessarily the case for patients of poorer economic standing however, hence the box's location at the very bottom of the model.

Sandwiched in between these two boxes are the state and charitable sectors. This position makes sense based on what we know about the way in which patients traversed the various sources of healthcare. It is for this reason that each of the sectors also appears twice, to allow for the fact that some patients tried each in turn before going down the private route. Patients could also, at any stage, leave these sectors and head to the medical market, as is shown by the exit arrows or patient pathways. Within the model, the state and charitable sectors function as gatekeepers on the medical market. At any given point in time the patient eligibility criteria that they set, along with how rigidly these were enforced and, of course, the actual capacity within each sector to provide healthcare, all helped to determine the volume of patients that entered the market. As gatekeepers, their biggest impact was on doctors – or the very bottom box in the model. Ultimately, the amount of ill-health that was treated in the state and charitable sectors influenced the relative size and importance of this particular segment of the market.

The model fares well when applied to 'real life' situations. In Portsea, considerable capacity existed in the state sector through the dockyard medical department. When employment at the yard steadily increased from the mid-1840s onwards, so more and more people in the town were able to access this provision. As a gatekeeper, the dockyard was effectively stopping large numbers of people from entering the medical market. Consequently, local demand for doctors plummeted and this segment of the market shrank. Between 1824 and 1896 the number of private orthodox practitioners fell from sixteen to just two. A similar set of circumstances prevailed in rapidly expanding Landport, with its predominately labouring-class population. This time however, sizeable capacity lay in the charitable sector, through the Royal. Although this hospital took in patients from across Portsea Island and even beyond, those that arrived at its outpatients department were much more likely to be local people. Hence again, we have a gatekeeper stopping patients entering the bottom box of the market, contributing to the slow growth that was experienced in this segment and the characteristic high turnover of doctors that prevailed in Landport throughout the period. In Southsea, the socio-economic and occupational characteristics of the population were very different. Employment at the dockyard was much less significant, there was also a much greater concentration of affluence in the town than anywhere else in Portsmouth. Based on the model, we should thus expect to find a more prominent and buoyant medical market, simply because far fewer people locally would have met the criteria for either state (via the dockyard and the poor law) or charitable provision. This is of course exactly what happened. Both 'boxes' of the medical market expanded almost continuously throughout the nineteenth century.

The model's ability to withstand scrutiny against the varied circumstances of Portsmouth's towns is suggestive of its wider applicability. Only further research will show whether this is the case or not but, at the very least, it promises to be a useful tool for understanding healthcare provision at a local level. Rather than thinking narrowly about certain providers or talking in vague terms about the medical market, the model encourages a more specific, yet holistic approach. It prompts questions such as: what determined the overall mix of private, state and

charitable provision in a given locality and did this vary over time and, if so, for what reasons? The model potentially has other applications too. In particular, it facilitates thought around the impact that external factors or events might have had on individual sectors and the overall healthcare system. This brings us to the second part of the chapter. By examining the cholera outbreak in 1849 and feeding the findings back into this model we can begin to see not just how the system responded to pressure, but we can also begin to understand more about how the medical market operated.

6.2: Provision Under Pressure: Exploring Market Operation

Context

There were six cholera pandemics during the nineteenth century.[55] From its Asian centre in Lower Bengal, the disease travelled westwards through Afghanistan and Russia to Europe and the rest of the world.[56] 'Asiatic cholera' as it became known in this period, is caused by the bacteria *Vibrio cholera*. This thrives in water and is contained in the excreta of victims and carriers. Transmission is through the ingestion of contaminated water or food. Cholera is a severe diarrhoeal disease which can kill within a matter of hours if untreated. After an incubation period of two to five days, victims begin to suffer massive vomiting and diarrhoea. As much as a litre of fluid stools (frequently referred to as rice water stools) are passed hourly, resulting in rapid and severe dehydration. This leads to low blood pressure and eventual collapse. In terminal cases, the patient's skin wrinkles and their eyes and cheeks become sunken. Just prior to death, the face and peripheries turn blue from circulatory failure and de-oxygenation of the blood. Contemporaries referred to this as the 'blue phase'.[57]

Although little clear evidence exists of the social distribution of the disease in the nineteenth century, early writers on the subject were agreed that the poor suffered most. As the first pandemics struck, the inescapable connection between outbreaks and impoverished areas led many to suggest that the poor themselves were at fault, especially those that were idle and 'undeserving'. This rationale fitted well

with the notion that the morally upstanding in society were less likely to succumb to a disease which had its origins in the 'uncivilised East'.[58] By the time of the third pandemic (1841-1859) this view had begun to recede. The problem commentators faced was that cholera missed some places altogether, even though they were just as dirty and overcrowded as the towns and cities in which outbreaks occurred. As one British doctor commented: 'The epidemic was no respecter of classes... Rich and poor suffered alike or escaped alike'.[59] To use the words of Asa Briggs, 'cholera thus not only created panic: it posed puzzles'.[60]

One such puzzle was the cause of cholera. Until Robert Koch isolated the cholera bacillus and published his findings in 1883, two competing theories held sway. The first was 'miasma theory', which remained in the ascendancy for most of the century. 'Miasmatists' were convinced that the disease originated and was spread through the agency of noxious vapours or 'miasmata' in the atmosphere. Hence, urban environments that escaped the scourge of cholera did so because the particular mix of foul vapours and smells they emitted did not produce the disease. An alternative view was put forward by the 'contagionists'. They believed that cholera somehow spread from person to person. Ironically, this latter theory was slow to gain currency. Even Doctor John Snow's pioneering work on the transmission of cholera and his famous Broad Street water pump experiment did little at the time to dent the popularity of miasma theory.[61]

It is estimated that roughly 50 per cent of cholera cases resulted in death during the nineteenth century.[62] Yet, in terms of the number of lives it claimed, cholera was comparatively less important than Europe's other major killers of the time. In England for example, almost 355,000 people died of consumption between 1848-1855, against 83,000 deaths from cholera in the same period.[63] However, cholera's degrading symptoms and its ability to kill quickly and indiscriminately, provoked great fear and set it apart from other diseases in peoples' minds. Historians have also singled out cholera as important, generally regarding it as the classic epidemic disease of Europe during the age of industrialisation. This is because it spread along the same arteries of expanding commerce and thrived in the insanitary conditions created by towns and cities undergoing rapid population growth and

urban expansion.[64] Although scholarly research into nineteenth-century cholera is expansive, two broad strands of work can be detected. The first considers cholera's effects on social cohesion, highlighting the manner in which the disease attacked contemporary sensibilities and drew attention to the poverty and degradation that existed in Europe's great towns and cities.[65] The second focuses on cholera (along with other diseases), in relation to public health movements and considers the extent to which these diseases prompted administrative and sanitary reform.[66] Micro-studies have contributed to both strands of research.[67] However, as yet, no attempts have been made to assess the impact that outbreaks had on local medical markets or local state and charitable healthcare provision in either a European or British context.

The 1849 Cholera Epidemic in Portsmouth

England and Wales suffered four major cholera epidemics, each of which affected Portsmouth to some degree. Estimates vary concerning the number of deaths countrywide. The first epidemic, 1831-1832, is thought to have claimed 31,000 lives. The second, 1848-1849, was much worse – killing some 60,000 people. The final two (1853-1854 and 1866), though less severe, are still believed to have caused 26,000 and 17,000 deaths respectively.[68]

The decision to focus on the 1849 epidemic was determined by two factors. Firstly, Portsmouth suffered the most during this outbreak. Whereas between 1831-1832 approximately 88 people died of cholera on Portsea Island, more than ten times this number died in 1849.[69] Moreover, at the same time as cholera was running rampant, Portsmouth was also afflicted by an outbreak of non-specific diarrhoeal illnesses. Like its Asiatic counterpart, 'English cholera' as it was sometimes called, reached epidemic proportions on Portsea Island during the summer of 1849, attacking people from across the social spectrum.[70] Hence, all three healthcare sectors found themselves suddenly under extreme pressure. This provides us with a set of circumstances which are ideal for testing the claim that the market system can respond quickly to changes in market conditions and is able to get things done without the need for a complex administrative system.[71]

Secondly, as well as being the most severe outbreak of cholera (Asiatic and English) in Portsmouth's history, the epidemic also occurred before the introduction of any substantive public health measures. Local healthcare provision was therefore left to cope on its own. Indeed, in Portsmouth there were virtually no arrangements in place to protect the public until the Local Government Act (1848) was finally adopted in 1863. Prior to this responsibility for public health was shared between the Borough Council and the Improvement Commissioners for Portsmouth and Portsea. These public bodies were separate from one another, which led to arguments and confusion over their duties and made them ineffectual as a result.[72] The 1849 epidemic also predates the establishment of the port sanitary authorities by over twenty years. Until 1872 the Customs Service was in charge of implementing the Quarantine Act 1825.[73] This was the only measure in place to protect English ports and applied to all vessels which travelled to them from places where 'the Plague or other infectious disease or distemper highly dangerous to the health of His Majesty's subjects' was known to exist.[74] Crucially however, the Act did not specify cholera as a quarantineable disease.[75]

Portsmouth's first confirmed case of cholera occurred in June 1849 in Fountain Street, Landport. This was the exact same street where a much smaller outbreak had begun in the previous year.[76] Fountain Street was a particularly deprived area of the town. Its twenty or so hovels were without drainage and had only a very limited water supply. Residents were also forced to share privies and lived with what amounted to an open sewer running down the centre of their street.[77] From Fountain Street the disease spread rapidly and, as more cases followed in quick succession, local fears were confirmed: King Cholera was once again holding court in Portsmouth. By the time that the last case was reported on the 23rd September, the disease had claimed nearly a thousand lives out of a population of 72,000.[78] This was of course just the tip of the iceberg. Some people had contracted cholera and survived, while many thousands more had succumbed to the non-specific diarrhoeal illnesses that were also rife at the same time. Dr Henry Carter for example, who was surgeon for the Portsea Town District where there were 910

houses, reported 419 cases of diarrhoea, 110 cases of cholera and 38 deaths from cholera in less than three months.[79]

In tune with the rest of the country, the outbreak in Portsmouth was blamed on the overcrowded and insanitary conditions that prevailed across many parts of its four towns. As a consequence, the testimony of local doctors employed by the Board of Guardians during the epidemic was sought as part of an ongoing public inquiry into the sewage, drainage and water supply of Portsmouth. This inquiry had commenced in December 1848, having been triggered when local rate payers petitioned the General Board of Health about Portsmouth's lack of provision for paving, cleansing and lighting of the streets.[80] Their aim was to force the borough's adoption of the Public Health Act.[81] The inquiry was led by the Board's Superintending Inspector, Robert Rawlinson, who was a civil engineer. His final report (1850) makes lamentable reading. Like those relating to other towns and published in this period, it is a story of labouring-class people living in unspeakable squalor and filth.[82] Commenting on the state of parts of Old Portsmouth, one witness for the inquiry observed: 'that in Gold-street new sovereigns would be tarnished; in Silver-street, silver would rapidly assume the colour of pewter or lead; in Steel-street, steel would be rusted by the noxious vapours arising from the accumulations of all kinds of filth and deleterious gases'.[83] The *Rawlinson Report*, though written with a different purpose in mind, is an invaluable source of unwitting evidence about the actions of healthcare providers during the epidemic. This is particularly so of its 'cholera extract'. When used in tandem with other sources, such as local newspapers and the dockyard's archive, it is possible to reconstruct the chronology of the epidemic and assess how different providers responded to the challenges it presented.

From the outset, Portsmouth's local authorities and medical faculty were keen to play down the epidemic. This was a fairly common reaction. In Salisbury for example, attempts were made to suppress news of a local outbreak in order to prevent panic.[84] There were also other good reasons for adopting such a policy. During the 1831-1832 epidemic there was a series of popular disturbances across the country, many of which were driven by the fear that cholera was being used by the

medical profession as a means to acquire bodies for dissection. In some instances these disturbances had led to assaults on doctors and officials and even damage being done to hospitals.[85] Although Portsmouth escaped this unrest, it was obviously felt prudent not to risk exciting the public unnecessarily. Behind the scenes however, moves were afoot within weeks of the first case to co-ordinate a response to what was rapidly turning into an epidemic. The Board of Guardians took the leading role, convening a meeting on the 10th July which was attended by Dr Grainger from the General Board of Health and a large number of Portsmouth's doctors. Although the minutes of this meeting could not be found, the newspaper report that immediately followed it indicates that representatives from the Committee of Management at the Royal were also present, as were officials from the Boards of Commissioners for Portsmouth and Portsea.[86]

As a result of this meeting a five-point plan was unanimously agreed by all parties and promptly put into action.[87] This involved considerable expense to the public purse, but was justified on the basis that the economic and social costs of inactivity would be far greater.[88] Firstly, the Board of Guardians immediately appointed six new medical officers to assist those already in their employ. These men were all drawn from Portsmouth's existing private orthodox practitioners. Secondly, a series of 'drop-in centres' were set up across the four towns in which residents could obtain, free of charge, 'medicines suitable for the cure of diarrhoea'. Thirdly, the Committee of Management for the Royal suspended the need for a letter of introduction in cases of cholera and diarrhoea. Notices to this effect were posted, inviting people who did not have the means 'to procure medical aid in the usual way... to apply, on first symptoms, at the Hospital, where medicine and advice will be given'. Fourthly, the boards of commissioners organised cleansing of the streets, alleys and gutters. Finally, the authorities sought to reassure the public that matters were under control. Through the medium of local newspapers, they communicated the output of the July meeting and gave people general advice on how to avoid catching cholera and other diarrhoeal illnesses. Inhabitants were urged not to consume stale fish and vegetables and unwholesome meat as the users of such food were: 'more liable to be attacked by the prevailing epidemic'.[89]

That such a meeting took place, with all three sectors represented (private, state and charitable) is obviously important. One might interpret it as proof that a consensus had been reached that no single healthcare sector was capable of dealing with the epidemic on its own. More noteworthy however, were the actions agreed at this meeting. The appointment of six new medical officers was particularly significant. Thinking in terms of the model of healthcare provision that was presented earlier, it shifted resources from the bottom box of the medical market (doctors) up into the state sector. This demonstrates a contemporary awareness and general acceptance amongst providers that the private sector or medical market was the least able to respond effectively to the upsurge in demand caused by the epidemic. In turn, it also implies that supply in the doctors' segment of the market was very inelastic. In many ways this is not surprising; setting up in private practice was obviously not something that happened overnight. Although this segment of the market did respond to changes in demand, it took time to do so; as was exemplified by the steady growth in the numbers of orthodox practitioners in Southsea which took place in the latter half of the century. Conversely, supply was more elastic in other parts of the market. Patent medicine sellers, who it will be recalled were in the very top box of the model, very quickly started to advertise cures for cholera and bowel complaints in the local newspapers. The first advertisement for these appeared on the 4th August, the last on 27th October by which time it was clear that the epidemic was over.[90]

Staying with the model of healthcare provision, the fact that it was possible to immediately appoint six new medical officers also suggests that there was latent capacity in the doctors' segment of the market. This allows us to reflect on the market's overall efficiency. The number of deaths that were caused by cholera in such a short space of time tells us that the upsurge in demand for healthcare during the epidemic was both sudden and extreme. We also know that where doctors were concerned supply was inelastic. Therefore, during the three months that the disease raged in Portsmouth, demand would have outstripped supply in this segment of the market. Consequently, if the medical market operated efficiently then doctors, as a finite resource, should have been fully utilised, with the healthcare they provided

being rationed through a rise in prices. In other words, there should have been no slack in this segment whatsoever. However, that there was scope to move doctors from the private to the state sector, provides us with a clear indication that the price mechanism did not work properly in the medical market. In the everyday provision of healthcare the problems caused by this deficiency were manageable. Despite its imperfections, the medical market provided an adequate means of allocating limited resources. Although it distributed these unevenly across the population, any inequities were at least partially mitigated by the presence of state and charitable healthcare providers. In times of a health crisis however, it was a totally inadequate mechanism for delivering the social and moral outcomes desired by society. Both the tone of the *Rawlinson Report* and the newspaper coverage of the epidemic and its aftermath, make it very clear that people in general believed that everyone had a right to healthcare. With supply in a crucial segment of the market so inelastic and with essential features of the market system operating below par, there was no hope that it could ever achieve this objective – hence the need for state intervention.

Shifting resources from the private to the state sector not only unlocked the spare capacity in the market but it also provided a much more efficient way of allocating resources in times of extreme stress. Whereas a private practitioner's current caseload was at least to some degree determined by the price mechanism, there was no such dynamic in the state sector. Instead, 'time' was the biggest constraint on the number of patients that a doctor could see. Under normal circumstances this meant that union medical officers had to balance the requirements of the post against the competing demands of their private practices. During the cholera outbreak however, there was a clear expectation that they would give priority to patients of the state. Indeed, the *Rawlinson Report* suggests that doctors employed as medical officers worked without respite throughout the duration of the epidemic. In his evidence to the enquiry W. Raper MD, whose district included Southsea and the southern half of Landport, commented:

> **When the cholera commenced its ravages, I had three assistants very promptly assigned to my district by the Board of Guardians; yet the cases of cholera and diarrhoea occupied us so incessantly from morning to night, as well as frequently in the night also, that we found it impracticable to fill up the more detailed forms for reports of cholera cases...My own impression, however, is, that the numbers given are considerably below the real number**

> attended by myself and my assistants. As for the diarrhoeal cases, they were so numerous, and so imperfectly recorded... that it would be utterly useless attempting to fill up the columns set apart for them[91]

Moreover, the Board of Guardians also appear to have encouraged medical officers to be proactive in their duties. Mr Piercey for example, who was Surgeon of the Portsmouth Town District and part of Southsea, conducted a house-to-house visitation of Steel Street following three deaths from cholera and discovered 56 cases of diarrhoea which he immediately treated.[92] This was a far cry from how doctors operated in the medical market. Whilst private practitioners certainly did their utmost to attract custom, they stopped short of knocking on people's doors.

It was stated earlier that a central claim of the market system is that it can respond quickly to changes in market conditions and is able to get things done without the need for a complex administrative system. To a degree this was true of Portsmouth. As chapters three and four demonstrated, the medical market lacked an administrative system altogether. Instead, it developed organically in response to market forces and other external influences. The expansion of affluent Southsea for example, was all that was needed to trigger growth in the numbers of doctors in the town. However, as we have seen, the medical market's ability to respond quickly to changes in market conditions was severely inhibited not just by the inelasticity of supply but also because market operation was imperfect. As a consequence, when it came under extreme pressure, Portsmouth's private sector was hamstrung because it lacked any formal means through which to co-ordinate action when the market failed to perform. In contrast, as the July meeting reveals, bodies such as the Board of Guardians and the Committee of Management at the Royal had the organisational and administrative capacity to facilitate a coherent response to the epidemic. They also had access to financial resources. The manner in which the epidemic was dealt with at the Royal Dockyard reveals just how effective the state sector could be under such circumstances.

Cholera appeared in the dockyard on the 12th July 1849, just a couple of days after the meeting convened by the Board of Guardians. Its first victim was a Ropemaker called Arnold Man. He was brought to the surgery at 5 o'clock in the afternoon complaining of diarrhoea, vomiting and cramps to the lower extremities.

The surgeon, who described the patient's pulse as very quick and skin as cold, administered a draught and sent him straight home. Man died the next morning.[93] Although neither of the dockyard's medical officers had first-hand experience of the disease they immediately realised that it was Asiatic cholera. In the same way as they had dealt with the outbreak of small pox in the dockyard four months previously, their response was swift and proactive.[94] Within days the surgeon in charge had arranged for notices to be posted across the dockyard advising the men that the moment they felt unwell or had the 'slightest disorder of the stomach or bowels' that they were to stop work immediately and go to the surgery where they would be given treatment. At the medical department's instigation, this notice was backed-up by a series of meetings held by officers across the dockyard to ensure that the message reached everybody.[95] Additionally, it was decided locally to offer this treatment free of charge, even though cholera was not a work-related disease. This decision was retrospectively endorsed by the naval authorities. The Director-General of the Medical Department of the Navy also confirmed that dockworkers suffering from cholera could be sent to Haslar Hospital. In effect this resurrected a plan that had been devised after the 1831-1832 cholera epidemic, in which it was decided that in the event of a fresh epidemic a temporary cholera hospital would be created in the dockyard for ten to twelve patients.[96] Although ultimately it was not necessary to send any dockworkers to Haslar, this serves as yet another example of the concern that the Admiralty had for the health and welfare of its civilian workforce.[97]

In the months that followed, the surgeon in charge kept up a constant dialogue with the Medical Department of the Navy. Centrally, his weekly reports were collated with those from other dockyards and Royal Navy Hospitals. This allowed the naval authorities to track the progress of the epidemic. A similar system appears to have also operated during the 1831-1832 epidemic, where it was used to reallocate medical resources from Haslar Hospital to a Royal Navy hulk at Chatham which had been converted into a cholera hospital.[98] In mid-October, the surgeon submitted a full nosological report on the epidemic to the Medical Department of the Navy.[99] From this we learn that 1,516 men received treatment at the dockyard surgery between 12th July and 29th September. Of these, 212 were placed on the

SICK list for cholera and cholereal complaints, 340 for diarrhoea and 71 for colic. With considerable justification the surgeon was very proud of his department's performance. He strongly believed that the swift action that had been taken, both locally and centrally, had saved many lives. In total, only ten men died out of a workforce of 4,470. This amounted to roughly two deaths per 1,000 dockworkers. Although a workforce comprised largely of young men may have been better equipped to recover from cholera, we cannot ignore the fact that outside of the dockyard the death rate was much higher. Based on the number of cholera deaths registered at the time of the surgeon's report, it stood at nearly ten per thousand across Portsea Island.[100] On this measurement, we might conclude that for certain groups in society it was better to be sick in a dockyard town during an outbreak of infectious disease. Dockworkers at least had better access to provision and better health outcomes than were enjoyed by the population at large in Portsmouth.

6.3: Conclusion

The medical market's relationship with the state and charitable sectors was multi-faceted, and was characterised by both co-operation and tension. Private doctors for example, often found themselves working in partnership with dockyard surgeons. From time-to-time, they were also employed on a casual basis to assist the medical officers with visiting employees who were on the SICK list but lived long distances from the dockyard itself. Conversely, the willingness of charitable providers to give free treatment was a source of constant and increasing friction with private orthodox practitioners. With some justification, many doctors believed that providers such as the Royal were guilty of failing to rigidly enforce laid-down eligibility criteria for charitable medical aid. In effect, this robbed the medical market of business. Broadly speaking, patients seemed to have benefited from both sides of this relationship. As we have seen, good relations between providers could lead to dual access, while tension in the relationship almost certainly helped to keep prices down in the medical market. Digby makes a similar point about the probable effect that unorthodox practitioners had on doctors' fees.

Important differences existed between the medical market and the state and charitable sectors. With the former, patients purchased access, whereas with the latter two sectors, access to healthcare was essentially a process of negotiation. The state, and to a lesser degree the charitable sectors, were also found to be much more organised than the medical market, which lacked any formal structure or co-ordination. Tracking how people navigated the overall system of healthcare revealed a propensity amongst some patient groups to avoid direct engagement with doctors in the medical market. Instead, they exhausted all other healthcare options before going down this route. This was evidenced by the growing numbers who turned up at the Royal's outpatients department seeking (and receiving) treatment even though they lacked the necessary letter of recommendation. It was also noted how, with increasing frequency, workers from across Portsmouth began to club together in order to subscribe directly to the hospital. This mirrored evidence from the dockyard, where it was discovered that dockworkers often attempted to negotiate access to the yard's healthcare facilities, even when their injuries or illnesses were not work-related.

These findings were used to construct a theoretical model (figure 6.1) of local healthcare provision. By tracing patient pathways through the three sectors, this model provides a framework for explaining the market's size and relative importance within the overall healthcare offering. It will be recalled that within the model, the state and charitable sectors are regarded as gatekeepers on the medical market; by setting rules around who was eligible for free healthcare, they helped to determine the level of demand in the market. This important aspect of the model suggests that the configuration of the three healthcare sectors potentially varied over time and from place-to-place. This contention is reinforced by the contrasting examples of Portsea and Southsea. In the former, where state sector provision via the dockyard was very prominent, the doctors' segment of the market all but collapsed during the second half of the nineteen century. Conversely, in Southsea the market remained buoyant because far fewer of the population qualified for free healthcare.

The model also proved its worth as a tool for examining the issue of market operation. By adopting an holistic approach to understanding local healthcare (i.e.

considering all three sectors together) the import behind the Board of Guardians' decision to appoint six temporary medical officers during the cholera outbreak could be properly assessed. The fact that this did not bring new doctors into the healthcare system, but merely shifted them from one 'box' of the model to another, demonstrates the inefficiency of the medical market as a mechanism for allocating resources. Because such latent capacity existed during an epidemic, we can also say with confidence that supply in the doctors' segment of the market was inelastic and that the price mechanism worked imperfectly. Moreover, it is evident that the lack of structure in the market hampered its ability to deal with either upsurges in demand or the uncertainty of demand. When placed under extreme pressure, the medical market was less able to cope than the state and charitable sectors. Obviously, the model needs further testing. However, at the very least, this chapter has shown that with careful thought it is possible to move much closer to an understanding of how the nineteenth–century medical market operated at ground level.

[1] Typical examples include: A. Borsay, *Medicine and Charity in Georgian Bath: A Social History if the General Infirmary c.1739-1830* (Aldershot: Ashgate, 1999); P. S. Brown, 'Herbalists and Medical Botanists in Mid-Nineteenth-Century Britain With Special Reference to Bristol', *Medical History*, 26 (1982), 405-420; O. Davies, 'Cunning Folk in the Medical Market Place During the Nineteenth Century', *Medical History*, 43 (1999), 55-74; O. Davies, 'Female Healers in Nineteenth-Century England', in *Women's Work in Industrial England: Regional and Local Perspectives*, ed. by N. Goose (Hatfield: Local Population Studies, 2007), pp. 228-249; H. Marland, 'The Medical Activities of Mid-Nineteenth-Century Chemists and Druggists, With Special Reference to Wakefield and Huddersfield', *Medical History*, 31 (1987), 415-439.

[2] Jenner and Wallis make similar observations about the medical market hypothesis: M. S. R. Jenner and P. Wallis, 'The medical Marketplace', in *Medicine and the Market in England and Its Colonies c. 1450- c. 1850*, ed. by M. S. R. Jenner and P. Wallis (Basingstoke: Palgrave Macmillan, 2007), pp. 1-23.

[3] S. King, *Poverty and Welfare in England 1700-1850: A Regional Perspective* (Manchester: Manchester University Press, 2000), p. 200.

[4] PCRO PR/H/7/2/4, Portsmouth Royal Hospital Annual Reports, 1889-1895, Annual Report 1890.

[5] A. Digby, *Making a Medical Living: Doctors and Patients in the English Market for Medicine, 1720-1911* (Cambridge: Cambridge University Press, 1994), p. 50.

[6] I. Loudon, 'A Doctor's Cash Book: The Economy of General Practice in the 1830s', *Medical History*, 27 (1983), 249-268.

[7] RNM 1983/621-622, 12/1-3, Letter Books and Correspondence Files, 1850-1869, Letter 19 May 1854.

[8] Doctor Samuel Stickland MRCS, LRCP, is listed as holding this position in *The London & Provincial Medical Directory*, 1879.

[9] The dockyard surgeon specifically drew attention to the practice in a letter to Sir William Burnett, Director General of Hospitals and Fleet, attempting to use it as leverage to justify the appointment of more staff, see: NMM POR/J/6, One Volume of Orders to the Yard Surgeon, 1823 to 1849, Letter 29 September 1847.

[10] NMM POR/J/6, Admiralty Letter 29 July 1828.

[11] RNM 1983/621-622, 12/1-3, Report 3 August 1860.

[12] RNM 1983/621-622, 12/1-3, Report 1 September 1851.

[13] Digby, *Making a Medical Living*, p. 50. For a recent analysis of poor law medical contracts, focusing on the late-eighteenth and early-nineteenth centuries, see: A. Stringer, 'Conflict and the Negotiation of Terms in Old Poor Law Medical Contracts' (unpublished doctoral essay, Oxford Brookes University, 2008).

[14] N. Parry and J. Parry, *The Rise of the Medical Profession: A Study of Collective Social Mobility* (London: Croom Helm, 1976), p. 151.

[15] E. M. Little, *History of the British Medical Association 1832-1932* (London: British Medical Association, 1932), p. 199. Little was a fellow of the Royal College of Surgeons, was elected first president of the British Orthopaedic Association (1918) and was also honorary surgeon to the Royal National Orthopaedic Hospital.

[16] Parry and Parry, *The Rise of the Medical Profession*, p. 152.

[17] Little, *History of the British Medical Association*, p. 199.

[18] Parry and Parry, *The Rise of the Medical Profession*, p. 143; K. Waddington, 'Unsuitable Cases: The Debate Over Outpatient Admissions, the Medical Profession and Late-Victorian London Hospitals', *Medical History*, 42 (1998), 26-46.

[19] Quoted in Parry and Parry, *The Rise of the Medical Profession*, p. 143; for a specific study on nineteenth-century London Hospitals see: K. Waddington, *Charity and the London Hospitals, 1850-1898* (Woodbridge: Boydell, 2000).

[20] Parry and Parry, *The Rise of the Medical Profession*, p. 143.

[21] A. Digby, *The Evolution of British General Practice 1850-1948* (Oxford: Oxford University Press, 1999), p. 33.

[22] J. Lane, *The Making of the English Patient: A Guide to Sources For the Social History of Medicine* (Stroud: Sutton, 2000), pp. 43-58; for a fascinating insight into contemporary patient behaviour see: B. Mitchell and H. Penrose, eds. *Letters From Bath: 1766-1767 by the Rev. John Penrose* (Gloucester: Alan Sutton, 1983).

[23] C. Lloyd and J. L. S. Coulter, *Medicine and the Navy, 1815-1900*, 4 vols (London: Livingstone, 1961), IV, 2.

[24] RNM 1983/621-622, 12/1-3, Admission report 19 march 1852.

[25] Digby, *Making a Medical Living*, p. 236.

[26] For a selection of examples see: NMM POR/J/6, Letter 20 February 1830; 17 April 1830; Report 8 March 1849; Letter 24 April 1849; RNM 1983/621-622, 12/1-3, Letter 18 October 1851; letter 17 November 1851; Letter 16 October 1864; Letter 27 October 1865.

[27] K. Morgan, *The Birth of Industrial Britain: Social Change, 1750-1850* (London: Pearson, 2004), p. 66.

[28] Medical relief under the Poor Law could take many forms. In addition to attendance by the union medical officer or parish surgeon it could include hospital admission, cash doles, clothing and dietary supplements, see: King, *Poverty and Welfare*, pp. 200-202.

[29] King, *Poverty and Welfare*, in particular chapters 6 & 7.

[30] S. A. King, '"Stop This Overwhelming Torment of Destiny" : Negotiating Financial Aid at Times of Sickness Under the English Old Poor Law, 1800-1840', *Bulletin of the History of Medicine*, 79 (2005), 228-260; S. A. King, 'Regional Patterns in the Experience and Treatment of the Sick Poor, 1800-40: Rights, Obligations and Duties in the Rhetoric of Paupers', *Family and Community History*, 10 (2007), 61-75; *Essex Pauper Letters, 1731-1837*, ed. by T. Sokoll (Oxford: Oxford University Press, 2001).

[31] There is a substantial literature on nineteenth-century charity and philanthropy. On the subject generally see: M. Gorsky, *Patterns of Philanthropy: Charity and Society in Nineteenth-Century Bristol* (Woodbridge: Boydell, 1999); A. J. Kidd, 'Philanthropy and the 'Social History Paradigm', *Social History*, 21 (1996), 180-192; F. K. Prochaska, *Women and Philanthropy in Nineteenth-Century England* (Oxford: Oxford University Press, 1980); The literature on charity and healthcare is

similarly wide-ranging, for examples see: *Medicine and Charity Before the Welfare State*, ed. by J. Barry and C. Jones (London: Routledge, 1991); *Medicine, Charity and Mutual Aid: The Consumption of Health and Welfare in Britain, c.1550-1950*, ed. by A. Borsay and P. Shapely (Ashgate: Aldershot, 2007). Additionally, much has been written on charity and hospitals: A. Borsay, *Medicine and Charity in Georgian Bath: A Social History of the General Infirmary, c.1739-1830* (Aldershot: Ashgate, 1999); I. Loudon, 'The Origins and Growth of the Dispensary Movement in England', *Bulletin of the History of medicine*, 55 (1981), 322-42; H. Marland, 'Lay and Medical Conceptions of Medical Charity During the Nineteenth Century: The Case of the Huddersfield General Dispensary and Infirmary', in *Medicine and Charity Before the Welfare State*, ed. by J. Barry and C. Jones (London: Routledge, 1991), pp. 149-71; J. Reinarz, 'Investigating the "Deserving" Poor: Charity, Discipline and Voluntary Hospitals in Nineteenth-Century Birmingham', in *Reconfiguring the Recipient: Historical Perspectives on the Negotiation of Medicine, Charity and Mutual Aid*, ed. by A. Borsay and P. Shapely (Aldershot: Ashgate, 2007), pp. 111-133; J. Reinarz, 'Charitable Bodies: The Funding of Birmingham's Voluntary Hospitals in the Nineteenth Century', in *Financing British Medicine*, ed. by S. Sheard and M. Gorsky (London: Routledge, 2006), pp. 40-58; K. Waddington, *Charity and the London Hospitals, 1850-1898* (Woodbridge: Boydell, 2000).

[32] *Chamberlain's Directory of Portsmouth, 1879*; the charity's fundraising events are also reported periodically in local newspapers. The last such report was found in: *Portsmouth Telegraph*, 2 March 1889.

[33] *Portsmouth Telegraph*, 15 January 1887.

[34] K. Williams, *From Pauperism to Poverty* (London: Routledge, 1981), p.105.

[35] Both these charities were listed in: *Chamberlain's Directory of Portsmouth, 1879*.

[36] PCRO PR/H/7/2/1, Annual Report 1849.

[37] PCRO PR/H/7/2/5, Annual Report 1896.

[38] PCRO PR/H/7/2/1, Annual Report 1849.

[39] Digby, *Making a Medical Living*, p. 236.

[40] K. Waddington, 'Subscribing to a Democracy? Management and the Voluntary Ideology of the London Hospitals, 1850-1900', *English Historical Review*, 118 (2003), 357-379, (p. 357).

[41] Marland, 'The Changing Role', pp. 44-48.

[42] PCRO PR/H/7/2/1, Annual Report 1849; PCRO PR/H/7/2/4, Annual Report 1895.

[43] This became a feature in voluntary hospitals across the country: Marland, 'The Changing Role', p. 46; Waddington, 'Unsuitable Cases', p. 27.

[44] PCRO PR/H/7/2/4, Annual Report 1895.

[45] The medical profession in London believed the abusers of the system included the 'undeserving' and the middle-classes: Waddington, 'Unsuitable Cases', p. 27.

[46] PCRO PR/H/7/2/4, Annual Report 1890.

[47] Marland, 'The Changing Role', p. 45.

[48] This bears out concerns raised by the medical profession in London, in particular that subscriptions and donations to voluntary hospitals were being misapplied and used to fund the treatment of patients who could afford to pay: Waddington, 'Unsuitable Cases', p. 27.

[49] PCRO PR/H/7/2/4, Annual Report 1890. Chilcott & Williams ran one of the few factories in Portsmouth. The partnership was formed in the 1850s and their factory opened in 1861: R. C. Riley, 'The Industries if the Portsmouth in the Nineteenth Century', *The Portsmouth Papers*, 25 (1976), 3-22, p. 16.

[50] Marland, 'The Medical Activities', p. 439.

[51] PCRO PR/H/7/2/4, Annual Report 1890.

[52] Loudon, 'A Doctor's Cash Book'; Digby, *Making a Medical Living*, p. 171.

[53] Parry and Parry, *The Rise of the Medical Profession*, pp. 136-140.

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[55] R. J. Evans, 'Epidemics and Revolutions: Cholera in Nineteenth-Century Europe', *Past and Present*, 120 (1988), 123-146, p. 125.

[56] A. Briggs, 'Cholera and Society in the Nineteenth Century', *Past and Present*, 19 (1961), 76-96, p. 84.

[57] For a comprehensive description of the disease's symptoms and transmission, along with details of modern cholera treatments (which focus on re-hydration) see: G. Gill and M. Holland, 'Introduction', in *Cholera & Conflict: 19th Century Cholera in Britain and its Social Consequences*' ed. by M. Holland, G. Gill and S. Burrell (Leeds: Medical Museum Publishing, 2009), pp. 1-6. Geoff Gill is Professor of International Medicine and Honorary Consultant Physician at the Liverpool School of Tropical Medicine, University of Liverpool, and Aintree University Hospitals.

[58] Evans, 'Epidemics and Revolutions', pp. 127-131.

[59] Quoted in Briggs, 'Cholera and Society', p. 84.

[60] Briggs, 'Cholera and Society', p. 79.

[61] A recent examination of the 'miasmatists' vs. 'contagionists' debate can be found in: M. Zeelie, 'This New Disease: Representing the Sunderland Cholera Epidemic of 1831-2' in *Cholera & Conflict: 19th Century Cholera in Britain and its Social Consequences*' ed. by M. Holland, G. Gill and S. Burrell (Leeds: Medical Museum Publishing, 2009), pp. 13-40.

[62] Evans, 'Epidemics and Revolutions', p. 128.

[63] D. Brunton, 'Dealing With Disease in Populations: Public Health, 1830-1880', in *Medicine Transformed: Health, Disease and Society in Europe, 1800-1930*, ed. by D. Brunton (Manchester: Manchester University Press, 2004), pp. 180-210, (p. 185).

[64] Evans, 'Epidemics and Revolutions', p. 124.

[65] Examples from this literature include: M. Durey, *The Return of the Plague: British Society and the Cholera, 1831-32* (Dublin: Gill and Macmillan, 1979); R. J. Morris, *Cholera 1832: The Social*

Response to an Epidemic (London: Croom Helm, 1976); M. Pelling, *Cholera, Fever and English Medicine, 1825-1865* (Oxford: Oxford University Press, 1978); For a European context see: F. Delaporte, *Disease and Civilisation: The Cholera in Paris, 1832*, trans. by A. Goldhammer (London: MIT Press, 1986); R. J. Evans, *Death in Hamburg: Society and Politics in the Cholera Years, 1830-1910* (Oxford: Clarendon Press, 1987); J. Sahadeo, 'Epidemic and Empire: Ethnicity, Class and 'Civilisation' in the 1892 Tashkent Cholera Riot', *Slavic Review: Interdisciplinary Quarterly of Russian, Eurasian, & East European Studies*, 64 (2005), 117-139.

[66] The literature on nineteenth-century public health is extensive. A good general introduction is provided by Brunton, 'Dealing With Disease', pp. 180-210; see also: D. Porter, *Health, Civilisation and the State: A History of Public Health From Ancient to Modern Times* (London: Routledge, 1999). Other examples from this literature include: A. Hardy, *The Epidemic Streets: Infectious Disease and the Rise of Preventative Medicine, 1856-1906* (Oxford: Clarendon Press, 1993); D. McLean, *Public Health and Politics in the Age of Reform: Cholera, the State and the Royal Navy in Victorian Britain* (London: Tauris, 2006); A. Wohl, *Endangered Lives: Public Health in Victorian Britain* (London: Croom Helm, 1985). For a European context see: W. Coleman, *Death is a Social Disease: Public Health and Political Economy in Early Industrial France* (Madison: University of Wisconsin Press, 1982); A. F. La Berge, *Mission and Method: The Early Nineteenth-Century French Public Health Movement* (Cambridge: Cambridge University Press, 1992).

[67] *Cholera & Conflict* (see note 57 above) provides the latest contribution. This contains six micro-studies of cholera in English towns and cities. Other recent examples include: S. Burrell and G. Gill, 'The Liverpool Cholera Epidemic of 1832 and Anatomical Dissection – Medical Mistrust and Civil Unrest', *Journal of the History of Medicine & Allied Sciences*, 60 (2005), 478-498; D. Hunter, 'Cholera and the Struggle For Clean Water in Berwick-Upon-Tweed Poor Law Union 1848-1871', *Local Historian*, 37 (2007), 104-116; A. Kidd and T. Wyke, 'The Cholera Epidemic in Manchester 1831-32', *Bulletin of the John Rylands University Library of Manchester*, 87 (2005), 43-56.

[68] Zeelie, 'This New Disease', p. 14.

[69] R. Rawlinson, *Report to the General Board of Health on the Sewage, Drainage and Water Supply of Portsmouth* (1850), p. 21(hereafter referred to as the *Rawlinson Report*); W. G. Gates, ed. *City of Portsmouth Corporation Records: 1835-1927* (Portsmouth: Charpentier, 1928), p. 52.

[70] Gill and Holland, 'Introduction', p. 3.

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[73] K. Maglen, 'The First Line of Defence': British Quarantine and the Port Sanitary Authorities in the Nineteenth Century', *Social History of Medicine*, 15 (2002), 413-428, (pp. 414-419). For port health in the later nineteenth-century period see: A. Hardy, 'Cholera, Quarantine and the English Preventative System', *Medical History*, 37 (1993), 250-269.

[74] From the Quarantine Act 1825, quoted in: Maglen, 'The First Line of Defence', p. 417.

[75] In response to the cholera epidemic of 1831-32 the Privy Council moved to temporarily include cholera under the existing quarantine laws. This was subsequently regarded as an ineffectual move which did little to contain the spread of the disease. Maglen, 'The First Line of Defence', p. 418.

[76] 152 people died in this outbreak: R. C. Riley and J. Chapman, 'The Nineteenth Century', in *The Portsmouth Region*, ed. by B. Stapleton and J. H. Thomas (Gloucester: Alan Sutton, 1989), pp. 72-82, (p. 79).

[77] *Rawlinson Report*, p. 25.

[78] Gates, *City of Portsmouth Corporation Records*, p. 52.

[79] *Rawlinson Report*, p. 26.

[80] Peacock, 'Borough Government in Portsmouth', p. 10.

[81] The General Board of Health could force adoption of the Act and bring a local Board into being in places where the death rate, as averaged out across the population of an administrative district, exceeded twenty-three per thousand or where at least 10 per cent of poor rate payers petitioned the General Board. See: McLean, *Public Health and Politics*, p. 24.

[82] By December 1848, twenty four towns in addition to Portsmouth had applied for provisions under the 1848 Public Health Act to be adopted either through petitions from ratepayers or from the town Council: McLean, *Public Health and Politics*, p. 24

[83] Taken from the evidence given by Dr Quarrier, Inspector General of Naval Hospitals, *Rawlinson Report*, p. 28.

[84] R. Newman, 'Salisbury and the Age of Cholera: "We Mustn't Frighten the Readers"' in *Cholera & Conflict: 19th Century Cholera in Britain and its Social Consequences*' ed. by M. Holland, G. Gill and S. Burrell (Leeds: Medical Museum Publishing, 2009), pp. 124-141.

[85] J. Brooke, 'The Leeds Cholera Epidemic: The Pestilence Extends' in *Cholera & Conflict: 19th Century Cholera in Britain and its Social Consequences*' ed. by M. Holland, G. Gill and S. Burrell (Leeds: Medical Museum Publishing, 2009), pp. 41-70, (pp. 64-67).

[86] *Hampshire Telegraph*, 14 July 1849.

[87] *Hampshire Telegraph*, 10 November 1849.

[88] *The Rawlinson Report*, pp. 22 & 47; *Hampshire Telegraph*, 10 November 1849.

[89] *Hampshire Telegraph*, 14 July 1849.

[90] The advertising section of every edition of the *Hampshire Telegraph* was examined for July through to the end of November 1849.

[91] *The Rawlinson Report*, p. 24.

[92] *The Rawlinson Report*, p. 28.

[93] NMM POR/J/6, Letter 21 July 1849.

[94] The small pox outbreak was discussed in chapter five: NMM POR/J/6, Letter 10 March 1849.

[95] NMM POR/J/6, Letter 21 July 1849.

[96] NMM POR/J/6, Memorandum 5 March 1832.

[97] During the 1849 epidemic Haslar treated a total of 138 cases of cholera (Asiatic and English). Patients were all from the Royal Navy. For further details see: J. Wilson, M.D., F.R.S. Inspector of Naval Hospitals and Fleets, *Treatment of Cholera in the Royal Hospital, Haslar, During the Months of July and August, 1849, With Remarks on the Name and Origin of the Disease* (London: Simpkin Marshall, 1849). McLean also makes this observation about the Admiralty's commitment to dockyard towns. He found that similar arrangements were in place at Plymouth: McLean, *Public Health and Politics*, in particular pp. 53-65.

[98] McLean, *Public Health and Politics*, p. 66.

[99] NMM POR/J/6, Nosological Report, 10 October 1849.

[100] NMM POR/J/6, Nosological Report, 10 October 1849. Based on modern calculations the figure for Portsea Island as a whole actually worsens to almost fourteen deaths per thousand of the population.

Chapter Seven

Conclusion

This thesis began with the contention that the medical market hypothesis was not only untested but was also under-developed in a number of vital areas. Specific attention was drawn to the lack of detail surrounding market operation. It was pointed out that despite research spanning three decades, very little was known about how the market worked; how it responded to changes in consumer demand; how consumers engaged with it (especially at a local level); and how providers, both inside and outside of the market, related to one another. Neither Digby, Loudon or Porter, who might be regarded as the chief architects of the hypothesis, nor more recent advocates such as Wallis, adequately address these matters in their work. It was also suggested that the broad focus evident in much of the scholarly literature had led to other issues being overlooked. These included a consideration of how the character, size and composition of the medical market may have varied between locations and over time. Similarly, whilst recognising the consensus amongst historians that the market was imperfect, the degree to which external factors shaped its development and the development of healthcare provision more generally, was identified as another area requiring investigation.

Before moving on to look at how the study of nineteenth-century Portsmouth has helped to fill these gaps in our knowledge, it is important to state at the outset that the findings from this research broadly support the medical market hypothesis. It is clear that market forces were a key determinate in the way that healthcare provision developed in Portsmouth. The notion of a market worked especially well with chemists, both as a way of explaining their changing numbers over the course of the century and for understanding the basis of their relationship with consumers. In their general behaviour, chemists were found to display traits characteristic of providers operating in a commercial environment. Like retailers and other 'high street' businesses, they gravitated towards Portsmouth's main commercial areas.

Similarly, they advertised frequently, especially in local newspapers. The products they sold were also cheaply priced, making them affordable to all but the very poorest. Their segment of the medical market was therefore geographically and economically accessible, making it possible for consumers to exercise choice and actively shop around. It also meant that chemists experienced demand from the population in general. As one would expect in a market, this had a demonstrable impact on their numbers. In chapter four, we saw how these showed a correlation with broader population trends across Portsmouth's four towns. In Portsea for example, it was noted that chemists' numbers rose as the town's population increased and then fell when it began to decline.

The medical market also proved useful as a way of understanding the development of doctors' provision. People who visited practitioners direct were an important source of demand. Of this group, middle and upper-class patients were doctors' most profitable clients. It will be recalled that Doctor Doyle went to great lengths to attract such customers. More generally, as the historical geography of provision so dramatically revealed, Portsmouth's orthodox practitioners were drawn towards affluent districts, especially the southern half of Southsea. Doctors were clearly acting as economic agents, while their more prosperous patients were able to behave as active consumers. Not only did the latter have the economic means to engage frequently with this segment of the market, but they also had plenty of doctors to chose from in their locality. Conversely, practitioners did not chase the custom of labouring-class people in quite the same way. Problems with bad debts, along with the lower fees that it was customary to charge such patients, made them commercially less attractive. For labouring-class patients the cost of independently employing the services of a doctor was such that it was usually their last resort. Hence, poorer districts produced less demand for doctors and so fewer doctors located in them. Indeed, the highly localised nature of demand in this segment of the market and the resultant disparity that this caused in doctors' numbers between affluent and less-affluent districts is an important contribution that this thesis makes to the historiography.[1]

Generally speaking, the scholarly literature assumes a simple market connection between provider and consumer. This aspect of the hypothesis was found to require considerable revision, particularly in respect of how we should understand the relationship between doctors and their patients of lower social standing. Fewer practitioners in poorer districts meant less patient choice; while leaving it to the last minute to see a doctor further hampered the ability of the less affluent to 'shop around'. With both economic and geographical barriers to participation, it is problematic to conclude that labouring-class patients were 'active' consumers in the usual sense of the word. As we know from the patient pathways that were traced through the overall healthcare system in Portsmouth, many people from this social strata did all they could to avoid going to a private orthodox practitioner on an independent basis. For them, entering the doctors' segment of the market in this way did not necessarily represent a choice. Rather, it was something that they were forced to do when healthcare could not be secured from state and/or charitable providers. Even then, they could not guarantee receiving treatment. Doctor Doyle for example, was quite prepared to turn away potential clients if he doubted their ability to pay. It was only when the labouring classes acted in numbers that they became a truly effective market force. Collectives, such as friendly societies and sick clubs, were the second type of demand that practitioners responded to. Yet, while these gave many labouring-class people access to doctors, it disenfranchised them as consumers. At the point of delivery no direct economic connection existed between provider and consumer.

Historians have long recognised such intricacies in the interactions between doctors and their patients, but they have failed to adequately consider the potential impact that this might have had on the medical market. Ultimately, it was discovered that the complex ways in which doctors and their patients related to one another helped to shape the type of market that developed in different localities. The comparison between affluent Southsea and poorer Landport demonstrates this point. In the former doctors were plentiful, with their segment of the market featuring prominently within the town's overall healthcare offering. As well as tending to be experienced, most of Southsea's doctors remained in the town for many years and

generally possessed qualifications above the minimum required to practice. Conversely, Landport had an abundance of chemists but supported only a handful of doctors. Moreover, these practitioners were mainly newly qualified and few stayed in the town for long. As chapters three and four made clear, the character of the market and the prominence of its different segments, changed according to the socio-economic characteristics of the locality it served. Until now, this point has been poorly appreciated.

Other aspects of the hypothesis were found in need of refinement. It is evident from this study that the supply side of the nineteenth-century medical market was not necessarily characterised by progressive overcrowding. Instead, the intensity of competition ebbed and flowed, indicating that over supply was a periodic rather than an ongoing and worsening problem. The impact of half-pay naval surgeons on Portsmouth's medical market during the late 1850s and early 1860s illustrates this well. The sudden influx of these practitioners after the Crimean War momentarily upset the balance between supply and demand, putting the civilian doctors practising in Old Portsmouth and Portsea under severe pressure. This pressure then quickly dissipated following changes to naval retirement policy, which saw most naval surgeons either being retired or returned to full employment. Although this example is specific to garrison and naval towns, other, more general factors, were also capable of generating relatively short episodes of oversupply. As the chronology of Portsmouth's medical market showed, economic downturns had this effect. The depression in the early decades of the nineteenth century reduced local demand for doctors and led to a decline in their numbers. During these years an adjustment took place in the market, moving from a position of oversupply back towards an equilibrium. A similar situation occurred at the end of the century, after the growth of affluent Southsea had subsided. In this instance, the issue was resolved by a general opening up of the market, with doctors targeting labouring-class districts for expansion.

The findings from this thesis also add more than just nuance to the existing literature by revealing the extent to which outside factors could have an impact on the market. From the analysis of newspaper advertisements for example, it is evident

that local chemists' prices were at least partly determined by the fees mail-order vendors of medicines charged for their products. More specifically to Portsmouth, it was found that both war and the threat of war, constrained growth in the local medical market. With Britain's position in the nineteenth century as a maritime power, any turmoil overseas inevitably led to higher levels of industrial activity and employment in the Royal Dockyard. As a direct consequence, more people became eligible for free state healthcare, which in turn reduced demand in the medical market. The nature of healthcare provision at the dockyard meant that doctors were especially affected. Particularly in Portsea, the yard's continued expansion after 1840 more or less facilitated the collapse of their segment of the market in this town. More significantly for the hypothesis, it tells us that market forces were not the only factor vital to the development of healthcare provision. Rather than just shaping the market, international tension played an important role in determining the wider configuration of provision across Portsmouth's four towns. Because of the dockyard, state provision was very well-developed. Indeed in Portsea, this sector crowded out private-sector providers. Although there has been a tendency for historians to focus on particular aspects or types of providers in the medical market, it was not an isolated entity. In order to better comprehend how this market developed and worked, it needs to be understood as a component of a wider system.

The model proposed in chapter six pursued this line of thinking, endeavouring to bring out the fact that at a local level, the market's size and importance within the overall healthcare offering was influenced by the presence of state and charitable providers. Tracing patient pathways through the system for example, drew attention to the role that these providers played as gatekeepers to the market, especially in respect of private orthodox practitioners. As this thesis has shown, the capacity of the state and charitable sectors to provide healthcare, combined with the eligibility criteria that they set for accessing it, all helped to determine the volume of patients that entered the market at any given time. Of course, this was not something that was specific to Portsmouth or dockyard/naval towns. In essence, the model adds to the existing debate by providing historians with a tool for analysing and understanding the configuration of healthcare provision over

time and in a variety of local settings. Another important application of the model is that it can be used to explore further the issue of market operation. Interpreting the cholera epidemic of 1849 within its framework sheds light on the ability of the market to cope with sudden upsurges in demand. Not only did this reveal the elasticity and uncertainty of demand, and the inelasticity of supply (particularly where doctors were concerned), it also highlighted just how inefficient the market was as a mechanism for distributing resources.

Research relating to the Royal Dockyard has been fundamental to this thesis. Unlike the present scholarly literature, which typically talks about work-related illness before 1890 in very general terms, the richness of the medical department's archives enabled both a quantitative and qualitative picture to be drawn of the frequency and nature of occupational ill health amongst dockworkers. Three important points emerged from this analysis. Firstly, while physical injuries of all sorts were a hazard of working in the dockyard, it was evident that the naval shipbuilding industry produced its own set of common injuries. Some of these were suffered by dockworkers in general. Others were occupationally specific. During the first half of the century for example, shipwrights were especially prone to leg wounds caused by accidents involving use of the adze. After 1860, the appearance of rivet boys in the surgeons' casebooks became analogous with serious burns to the hands.

Secondly, the introduction of new technology, along with increased mechanisation and the use of steam and iron, had a demonstrable impact on dockworkers' health. As a consequence, the location of injuries in general showed a shift from the lower towards the upper body. In addition, changes occurred to the range and nature of injuries associated specifically with naval shipbuilding. Familiar ones from the age of wood and sail, such as hernias, continued to be a problem. But in this later period, burns and eye wounds became noticeably more common. The very environment of the dockyard also became more hazardous to work in, leading to a rise in the number of serious injuries. Dockworker admissions to Haslar Hospital jumped appreciably following the completion of the steam complex in 1856.

Thirdly, from as early as 1859 both the Admiralty and the dockyard's medical officers started to take seriously claims that naval shipbuilding was responsible for causing more general forms of illness. In April 1867, the first instance of lead poisoning being classified as a HURT appeared in the dockyard's records. Within six years of this case the Admiralty had issued instructions to all the Royal Dockyards aimed at minimising the health risks to workers who came into contact with lead. These included regulation of both the working environment and the individual, as well as the introduction of a system of job rotation for employees in affected occupations. Hence, by 1873 at the very latest, the Admiralty had officially recognised the existence of industrial diseases. This chronology is important in terms of the wider history of occupational health as it pre-dates the *Factory and Workshop Act* of 1883 (which regulated the use of lead) by a decade. As well as raising questions about the current scholarly bias towards the late-Victorian and Edwardian periods, it suggests that the merits of focusing attention on industrial diseases in the dangerous trades needs to be re-evaluated.

The dockyard's profound impact on Portsmouth's medical market has already been covered. However, its significance extends well beyond this. The fact that the scale of occupational ill health generated at the yard ultimately led to the formation of a system of healthcare for dockworkers is, in itself, noteworthy. If nothing else it suggests that the Royal Dockyards warrant a place in narratives about industrialisation and the development of welfare states.[2] The very existence of on-site medical facilities also tells us something about the reach of the state and the nature of centre/local relations. It shows that where the national interest was judged to be at risk, even early nineteenth-century governments were willing and able to intervene in very direct ways to preserve the health of civilians.[3] The comprehensive nature of the dockyard's medical facilities is also germane. As we saw in chapter five, dockworkers received home visits, had access to the on-site surgery and, in serious cases, could be admitted to Haslar Hospital. The yard's medical officers were also highly experienced, and were found to be both proactive and innovative in their approach to the issue of occupational ill health. The medical department's defined position within the naval administration also aided the effective management

of resources and provided a mechanism through which best practice could be shared across the various naval establishments. Without doubt dockworkers derived real benefits as a result. The dockyard's facilities were more than just another source of free healthcare. During the cholera epidemic for example, the medical department's success at treating and containing the disease was second to none. Based on this evidence alone, the Royal Dockyards clearly deserve consideration in the long-standing controversy over the extent to which war is good for medicine.[4]

As the preceding paragraph has started to suggest, while this thesis may have been driven by a specific set of aims, its findings have relevance to other historical debates. Perhaps most importantly, they provide an insight into health and healthcare in a nineteenth-century naval port. As was noted in chapter one, ports in general have been largely neglected by medical historians. The record linkage involved in tracing Portsmouth's doctors for example, provided an indication of the extent to which naval surgeons had a stake in civilian practice. At a local level, the whole relationship between civilian and military/naval medicine requires more research.[5] A contribution has also been made to the history of doctoring in the nineteenth century. The detailed case study of Doctor Doyle was especially important. As a first-hand account of a doctor setting-up in practice in the late-nineteenth century it is invaluable. His letters and memoirs add to our understanding of the challenges faced by newly-qualified doctors and reveal much about day-to-day general practice in this period. Beyond the history of medicine, the thesis says much about nineteenth-century Portsmouth. It shows for example, how state enterprise stifled commercial growth and restricted the development of some industries. Indeed, this point adds to the comments made earlier concerning the growth of the state. The chronological series of maps presented in chapter three are similarly important in terms of what they say about the urban geography of Portsmouth during this period. A key point to emerge from them was the constraining effect that the fortifications and the Admiralty's control of the shoreline, had on the port's spatial development.

To finish, it is worth considering the possible direction that new research might take in light of this thesis. Although Portsmouth's general development was characteristic of other towns and cities in the nineteenth century, it is acknowledged

that local studies can always be attacked on the grounds that their findings are unrepresentative. Hence comparative research, along similar lines to this thesis and Hilary Marland's work on Yorkshire, would do much to shore up the conclusions that have been reached. It would determine for example, whether any aspects of Portsmouth's medical market were specific to ports. In addition, it would allow further testing of the model of healthcare that was proposed in chapter six and help to establish the validity of adopting a more holistic approach to understanding the development of healthcare. Comparative studies could also be used to tackle some of the questions raised by this thesis. As we have seen, state-sector healthcare provision was prominent in Portsmouth. But what if the dockyard had been a commercial rather than a state-run enterprise? Would the occupational ill health it generated have provoked a market response? Or perhaps the charity sector would have been more prominent? Based on this line of reasoning, the possibility arises that different types of urban settlements might produce distinct configurations of healthcare provision. In time, instead of referring to the medical market, it may be found more appropriate to talk about systems of healthcare provision.

[1] Digby has drawn attention to regional differences in the ratio of practitioners to population: A. Digby, *Making a Medical Living: Doctors and Patients in the English Market for Medicine, 1720-1911* (Cambridge: Cambridge University Press, 1994), pp. 22-23.

[2] Harris provides an outline of this debate: B. Harris, *The Origins of the British Welfare State: Social Welfare in England and Wales, 1800-1945* (Basingstoke: Palgrave Macmillan, 2004), pp. 15-27.

[3] For an introductory discussion concerning medicine and the state see: J. V. Pickstone, 'Medicine, Society and the State', in *The Cambridge History of Medicine*, ed. by R. Porter (Cambridge: Cambridge University Press, 2006), pp. 260-297.

[4] For a recent contribution see: R. Cooter, 'Medicine in War', in *Medicine Transformed: Health, Disease and Society in Europe, 1800-1930*, ed. by D. Brunton (Manchester: Manchester University Press, 2004), pp. 331-363.

[5] Research by Ackroyd, Brockliss, Moss, Redford and Stevenson into the careers of surgeons who joined the army medical service during the Revolutionary and Napoleonic Wars stands out: M. Ackroyd and others, *Advancing the Army: Medicine, the Professions and Social Mobility in the British isles 1790-1850* (Oxford: Oxford University Press, 2007).

Appendix One

Since the 1980s medical historians have been keen to emphasise that the differences between physicians, surgeons, apothecaries were not as distinct as scholars had previously thought. They have also demonstrated that although these providers underwent a formal training, apprenticeship or were university educated, there was often little to distinguish the healthcare they offered from that provided by traditional healers or the various empiric practitioners in the marketplace. These observations, while certainly valid, have subsequently caused problems with terminology. Listed below are the terms used in this thesis, along with a brief outline of how they have been employed. It is acknowledged that debate around the usage of these terms still continues.

Orthodox practitioner/ Qualified practitioner: all those formally trained and/or university educated (Physicians, Surgeons, Apothecary). The term 'qualified' is preferred by some historians to describe orthodox practitioners during the period after the Medical Act 1858.

Doctor: used as a collective way to refer to the above

Unorthodox practitioner/ Unqualified Practitioner: opposite of orthodox practitioner (quacks, empirics, lay healers)

Chemist: This word originally referred to someone who mixed chemicals in a laboratory. Thus in the early nineteenth century, contemporaries may have more commonly used the term 'druggist' to describe retail outlets that prepared and sold medicines. However, as the century progressed it became normal for trade directories to employ the classification 'chemist'. Hence for ease this is used throughout. In this thesis, herbalists are also included within this term.

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